Medical Library

MAY 5 1928

Medical Times

THE JOURNAL OF THE AMERICAN MEDICAL PROFESSION

A Monthly Record of Medicine, Surgery and the Collateral Sciences

Published by THE MEDICAL TIMES COMPANY at 95 Nassau Street

57 Years of Faithful Service

Established 1872 Entered as second class matter Nov. 9, 1901, at the post office of New York, New York, under the Act of March 3, 1879.

Vol. LVI., No. 5 **New York** Twenty-Five Cents a Copy Two Dollars a Year

In This Issue

On Motor Impotencies of the Coxo-Femoral Articulation and Their Functional Recuperation
Gabriel Bidou, M. D.

Urology for the General Practitioner
Victor Cox Pedersen, M. D., F. A. C. S.

Dicephalus, A Case Report
P. Brooke Bland, M. D.

Stricture of the Female Urethra
Winfield Scott Pugh, B. S., M. D.

Acute Subdeltoid Bursitis
Jacob Grossman, M. D.

Complete Index to Reading Pages on Page 15

MAY, 1928

To Combat Hostile Nasal Bacteria

This agent and its method of application give it first place with many physicians

THE nose and throat—how susceptible they are to infection! Some preventive or remedial measure is often necessary. Thousands of physicians have found in Mistol an efficient combative to hostile bacteria in cases of coryza, simple cough, sore throat and such ailments.

No inflamed part of the mucous membrane escapes the soothing action of Mistol. A result that is not always certain with salves. And yet there is no possibility of sinus trouble as is the case with douches.

The healing ingredients of Mistol remain in contact long enough to exert their full effect. The viscous quality of this agent causes it to cling tenaciously to the surfaces. It is not easily washed away by natural secretions.

Mistol's method of application makes it absolutely safe in the hands of the patient. Using the unique Mistol Dropper, he tilts his head far back and lets Mistol drop into each nostril until it runs down the back of the throat.

Mistol was developed after long research in cooperation with leading nose and throat specialists. Its base of liquid petrolatum forms an ideal vehicle for a specially prepared combination of menthol, camphor and eucalyptol.

Sold in original sealed cartons containing a two-ounce bottle and Mistol Dropper

Mistol

REG. U.S. PAT. OFF.

Medical Times

THE JOURNAL OF THE AMERICAN MEDICAL PROFESSION

A Monthly Record of Medicine, Surgery and the Collateral Sciences

Vol. LVI, No. 5 — New York, May, 1928 — Twenty-Five Cents a Copy, Two Dollars a Year

Board of Contributing Editors

WM. G. ANDERSON, M.Sc., M.D., DR.P.H....New Haven, Conn.
JOHN W. BOWLER, A.M., M.D. .....Hanover, N. H.
HENRY CLARK COE, M.D., F.A.C.S.....New York
EDWARD E. CORNWALL, M.D., F.A.C.P.....Brooklyn, N. Y.
CHARLES J. DRUECK, M.D. .....Chicago, Ill.
LIEUT. JOHN DUFF, JR., Medical Corps....United States Navy
KENNON DUNHAM, M.D. .....Cincinnati, O.
W. L. ESTES, M.D. .....South Bethlehem, Pa.
HAROLD HAYS, A.M., M.D., F.A.C.S.....New York
AIMÉ PAUL HEINECK, M.D. .....Chicago, Ill.
WALTER J. HIGHMAN, M.D.....New York
HARVEY BURLESON MATTHEWS, M.D., F.A.C.S..Brooklyn, N. Y.
EDWARD H. MARSH, M.D.....Albany, N. Y.
ROBERT T. MORRIS, A.M., M.D, F.A.C.S.....New York
HENRY T. MORTON, M.D., F.A.C.S.....Brooklyn, N. Y.
D. G. MACLEOD MUNRO, M.D., M.R.C.P. (Edin.)..London, Eng.
GEORGE THOMAS PALMER, M.D. .....Springfield, Ill.
VICTOR C. PEDERSON, M.D., F.A.C.S.....New York
JOHN O. POLAK, M.Sc., M.D., F.A.C.S.....Brooklyn, N. Y.
JOHN PUNTON, A.M, M.D.....Kansas City, Mo.
DUNBAR ROY, M.D. .....Atlanta, Ga.
ALBERT H. SHARPE, M.D.....Ithaca, N. Y.
JOHN W. SHUMAN, M.D., F.A.C.P.....Los Angeles, Calif.
JOHN P. SPRAGUE, M.D.....Chicago, Ill.
OLIVER L. STRINGFIELD, B.S., M.D.....Stamford, Conn.
ALMUTH C. VANDIVER, B.S., LL.B.....New York
REYNOLD WEBB WILCOX, M.D., LL.D., D.C.L....Princeton, N. J.

On Motor Impotencies of the Coxo-Femoral Articulation and Their Functional Recuperation

GABRIEL BIDOU, M.D.

PHYSICIAN IN CHARGE OF THE DEPARTMENT OF FUNCTIONAL RECUPERATION AT THE HÔPITAL DE LA SALPÊTRIÈRE; PHYSICIAN IN CHARGE OF HÔPITAL SAINTE-ISABELLE,

Paris

The question of the hip impotencies is of such great importance that I will not be able to treat it completely in the short space of an article such as this.

Therefore I will describe only the two most frequent instances of the deficiencies of the hip and explain the solution I have imagined for recuperating these impotencies.

Let us first consider the deficiency of the muscular group of the hip due to infantile paralysis.

I

I will not here speak of the major paralyses as I have done so many other times; I will deal only with the subject of monoplegia, i.e., of the paralysis of only one inferior limb.

The monoplegic type is more frequent than is generally believed. The usual appliances are unfortunately of no use in its case. The doctors, and especially the parents, generally dislike to consider the patient who is able to walk with a crutch, or even with a stick, as a definitive cripple.

I will not criticize this way of thinking; it is quite excusable on the part of those who are unacquainted with the matter. But considering the aggravation which is bound to occur sooner or later in these cases, the patients should be enlightened on the subject.

In most of the cases of monoplegia, we find a more or less complete deficiency of the leg, thigh and pelvis muscles; the patient cannot possibly stand on a flabby leg; the command of the knee is lost and the foot is dangling.

Tendinous retractions are very often found due to vicious attitudes taken by the limbs during the acute period; the muscular alterations as to motivity vary considerably. It is not known why and how the filtrable bacteria causing poliomyelitis cause death in the anterior horns of the marrow nor is it known why certain motivating parts remain alive and active amid other destroyed ones. But there is one muscular group *that needs must be injured*: the muscular group of the gluteus medius and gluteus minimus which I have called the "appendor group."

The local loss of the muscular tonus is well known by neurologists but it does not seem that enough importance has been given to that deficiency.

It is easy to explain why.

Until now physicians have never taken into consideration the functional recuperation of invalids. They only begin to do so now. When a doctor, powerless to remedy the deteriorations of the organs of the human machine, has exhausted all his knowledge and sympathy towards his impotent patient, he finally advises him to go to a maker of orthopedic appliances. This artisan will have to face two great difficulties of opposite consequences.

He has no knowledge of human physiology, which is very unfortunate. Secondly, he has to cope with the legitimate feeling of his patient who wishes a comfortable, invisible appliance.

What is the result of that struggle? Either the artisan has a fair idea of the appliance he should make and the family does not accept his proposals, or he sees

neither the necessity nor the means to help him and will gladly adopt the ideas suggested by the patient and his family, for fear of losing a patient.

There is no way of getting out of the dilemma. But it is most important that monoplegic patients should be fitted with appliances; their way of walking, however cleverly "compensated," will fatally increase the distortion of the ligaments and the elongation of the paralyzed muscles, and besides, these patients, dragging after them

Fig. 1

their flabby, deformed legs, have an exceedingly ugly way of walking.

The appliances found in catalogues generally used in cases of infantile monoplegia are composed of moulded sheaths for the leg and the thigh, made of leather or any other plastic material, connected one with the other by a bolt at the knee, in order to prevent the latter from yielding under the weight of the body. The foot is maintained by steel props.

The most important portion, however, that should be provided with an appliance in order to obtain recuperation, is entirely neglected.

The "appendors" playing the main part in the equilibrium of the human body are the cause of all evil and if one does not study the means of restoring the missing function all efforts will prove useless. It is therefore most important to dwell on the action of that small muscular group.

Let me describe what happens when its action is disturbed.

A woman attacked by anterior poliomyelitis has been paralyzed for over a year. The spontaneous improvement registered may still continue; one can admit that the functional improvement due to the restoration of the motor cells becomes manifest during a period of 15 to 18 months (fig. 1).

In fact, this woman can stand upright leaning on two sticks, but a mere draught would make her lose her balance, yet she could walk with artificial muscles reenforcing her insufficient potential, if her appendors were not completely atrophied and deficient; for want of them a complete appliance is required with a corset and sheaths for the inferior limbs in order to obtain a satisfactory functional recuperation.

If one considers the photograph (fig. 1), one will notice a muscular depression above the trochanteric prominence. This depression is due to the atrophy of the appendors which ought to stand out and be continued by the femoral muscles.

Fig. 2 shows another case.

This child seems to be in perfect muscular condition; the limbs are normal as to their exterior shape. But the *appendors* are atrophied. What is the mechanism of the action of this important muscular group?

Let us suppose a femur, the frame of the inferior limb, and draw schematically its anatomic position.

The femur has an oblique position: its head oscillates in the cotyloid cavity of the pelvis; it bears the weight of the body. This weight is important as it represents a considerable fraction of the total weight of the body, and is compensated by the action of a strong "cordage" which is the *muscular group of the appendors.*

Let us delineate the axis of the femur in its equilibrated position; if the action of the appending cordage is suppressed, one will easily understand that according to the weight exerted on it, the femur will come down, inscribing an arc of a circle around its articular point of fixation.

We see, when the femur is moving, that the outline of the normal axis in correct attitude produces a distance a, b, corresponding exactly to the fall of the limb and the limping (Fig. 4).

One clearly understands that with the patient lying flat, the paralyzed limb seems to be longer than the other because the femur has lost its cordage of support and traction, but that it is too short when the patient, standing, will lean on it with the whole weight of the

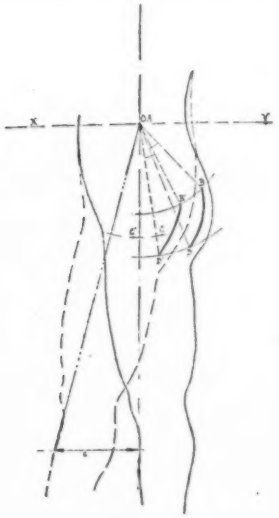


Fig. 4

body, because then the femur will have resumed its normal position under the vertical pressure exerted on it.

One must have now realized the importance of the muscular deficiency and one will also understand that the alternative movement, the stroke of the piston, will make the pelvis oscillate and produce the definitive fixation of the existing paralytic scoliosis.

What can be done to remedy this deficiency?

Suppose an imprisonment of the femur in a hood that will prevent it from going up beyond its normal point.

Imagine also that I put between the extremity of the

Fig. 3 Fig. 2 Fig. 5 Fig. 6

femur and the ground, through the medium of the leg and the foot, a prop corresponding to the distance a, b and you will immediately realize that the movement so much resembling that of a piston during the walk will be suppressed.

The special appliance I build in these cases fulfills this aim.

Imagine an appliance composed of:

A—a moulded belt, modelled with especial care, at the level of the cavity of the appendors, exactly enveloping the trochanterian prominence.

B—a cuissard articulated in exact coincidence with the coxo-femoral articulation.

C—a metal bar siding with the external face of the leg.

D—a shoe raised by the wanted prop.

This will have given one a general idea of the type of appliance which has to be used in order to establish the important connection between the inferior limb and the pelvis, normally secured by the appendor muscles.

A monoplegic patient, fitted with an appropriate and scientific appliance, succeeds in walking perfectly well without needing a stick. But the results obtained by mechanics have to be completed by reeducation, in which the personal factor plays a most important part.

I will not dwell any longer on the functional recuperation of the monoplegics. This question has never been thoroughly studied and its importance was worth my trying to develop in this article.

After having given a detailed observation, not on a physiopathologic novelty but on a subject that has been simply neglected until now, I beg permission to describe here a mechanical apparatus, which I devised a few years ago, and which has enabled me to make paralytic patients walk, when all antecedent efforts to remedy their impotency had been useless.

II

Supplementary artificial axis of the coxo-femoral articulation, called "median axis":

Amongst all impotencies those of the hip are perhaps the most trying ones; they prevent the patient from walking, standing and sitting.

How can one do without the coxo-femoral joint?

One can, if it cannot be helped, do without the elbow-articulation or even without the knee joint, provided these limbs are immobilized in a certain chosen attitude.

One can lead a normal life with an arm or a leg loss; orthopedic prosthesis will replace the missing limb, but a hip cannot be disarticulated with impunity.

The pains that arise from the disease or the ankylosis of the coxo-femoral articulation are amongst the most trying ones that can afflict the human body.

In 1923 I had the honor to present to the Academy of Medicine, Paris, a communication on *"The Determination of an Artificial Complementary Axis to the Coxo-femoral Articulation."*

I gave the demonstration of a special articular apparatus offering the possibility of supplying, in satisfactory conditions, the deficiency of the coxo-femoral articulation.

The artificial axis that I make use of is located on a celluloid belt at the highest level of the normal lumbar curve. This second articulation, in fact, has to be situated on a horizontal axis according to the anatomic plan at the level of the fourth lumbar vertebra.

Noticing how important was the amplitude of the movement of the lumbar curve, I realized that when the curve became unfolded, it was also bound to become longer, therefore I thought it would be possible to make use of this lengthening.

I proceeded to make very thorough researches on a certain number of patients and I observed how easily they were able to adjust to the lumbar curve in whatever position I chose to put them.

Figure 3 shows photographs taken in succession on the same plate at different moments of the lumbar play. One sees that there is quite a distance from attitude 1 to attitude 4. That is the distance I utilize.

Let me now explain schematically the mechanism of it (Fig. 4).

According to line X, Y passing by the highest point of the lumbar curve, I will place oscillation axis O and connect this point O with the sacrum B, D.

Then I straighten the lumbar curve and we shall see that on account of its lengthening, the limb has come in front of it, oscillating around point O whilst articulation C has not oscillated in the slightest.

C has become C'.

D has reached D', we have gone over distance E, of which the amplitude is regulated by the needs of the patient, or at least by the complete unfolding of the lumbar curve.

We must not forget that the "Median axis," as I call it, is located at about 20 cm. (for a grown-up person) above the coxo-femoral axis, and as we know that the covered distance is the product of the length of the lever by the sine of the inscribed angle, a very small augmentation, considered the total length of the lever, will enable the patient to take quite a normal step.

Figure 5 shows a monoplegic patient wearing an appliance with a superior oscillation axis. In the first photograph one sees the patient sitting normally, in the second one she is seated quite sunken in, which is due to the sinking in of the lumbar region.

The metallic armature that reunites the median point to the coxo-femoral articulation shows an obliquity that proves clearly the important angulation which can be obtained.

Figure 6 shows a patient taking a double step. He suffers from ankylosis due to suppurative coxalgia. It is hardly possible to tell, when he walks, which is the inferior limb moved by the median axis.

One is quite willing to believe that my median articulation greatly improves walking in cases of ankylosis of the hip or any other painful hip disease. But it may be believed my patient has some trick of his own and moves on with a sweep of his leg like a man with an amputated thigh would do.

Fig. 7

Figure 7 represents a girl afflicted with ankylosis of the hip due to suppurative coxalgia. Please notice the superposition of the three successive photographs and you will see that the three feet are exactly on the same line; they have not in the least swerved aside; there is no lateral shadow thrown on the floor by the leg.

The patient has doubtless moved on in pendulous vertical oscillation.

At the beginning of my discovery of the median point, I utilized it only for hip ankylosis due to coxalgia.

Then I tried it successfully for a rheumatic deforming arthritis.

In cases of "morbus coxae senilis" it is necessary to modify the appliance somewhat. In mechanics two cases are never alike; each patient represents another species.

I shall give a description of two of them.

Sometimes the patients afflicted with deforming arthritis of the hip present a predominance of the pain factor over real functional impotence. For, if the coxo-femoral axis can work with normal amplitude in its cotyloid cavity in spite of osteophytic formations, one understands that a certain angulation provokes severe pains. Therefore, it becomes necessary to find out which amplitude can be borne by the patient without pain; the movement of the articulation will be limited on the right or on the left of the vertical line, i.e., at the required angle.

This can be obtained by setting thrusts on certain points.

There are patients who cannot bear the weight of their bodies without great sufferings at the femoral head when standing, but who can without any pain sit down and remain seated.

This is to be explained by the fact that in the standing position the sustaining base of the body is represented by the outline of the two feet placed so as to form an angle of 45 degrees the anterior extremities of which would be joined by an ideal line. The rigid rod, i.e., the inferior limb touching the floor, ends at its superior extremity by the femoral head which receives and transmits entirely the weight of the body. The patient evidently suffers very severely when he comes to lean on a deformed articulation incrusted with osseous formations.

But when the patient is sitting the sustaining base is quite different, being composed of the two ischiums and the thighs; thus the weight does not lie heavily on the coxo-femoral articulation, and can be disburdened by some means of translation from the center of gravity forwards or backwards on the thighs or on the ischiums. It will consequently be necessary to foresee in those cases of coxo-femoral articulation locked when the patient stands up, and becoming automatically free when the patient sits down.

Time confirmed the results, so finally, two years ago, I utilized for the first time my "median axis" for paralytics. I wonder why I dared not do so long before; when one thinks the matter over, one immediately understands that things are exactly the same in the case of paralytics:

For the clearness of the demonstration I wish to give some schematic explanations.

At first, I beg you to be convinced that it is no easy matter to make a paralytic walk. For that purpose it is necessary to utilize every possible means; I was going to say, every mechanical trick.

A subject of paralysis of the trunk and the inferior limbs must be practically considered as a flabby mandrel.

The appliance, roughly seen, is composed of a sheathing belt, cuissard and leg-sheaths in moulded celluloid, connected one to the other by metallic armatures. These armatures are provided with automatic bolts that enable the patient to stand upright, excluding all possibility of bending over or, on the contrary, enabling him to be seated in a normal attitude.

In fact, a paralytic with his appliance is a rigid block of which the different constitutive parts are set according to the laws of static equilibrium.

How shall we proceed to make this block move?

The block must first be dissociated into two lateral and juxtaposited segments.

In order to secure this result the belt-corset is cut open in front and behind and the two halves are held together by a stay-lace.

The stay-lace must be tight enough to secure the wanted coaptation, but not too tight to give the two segments of the belt enough play.

This "play," very limited but existing however, determines an angulation that will be the greater as the height of the lever, i.e., of the horizontal axis of the "play," is higher above the ground.

My paralytic patients walked with the help of that

dissociation before I used my median axis. So if I set at both extremities of the horizontal axis passing by the "play," an oscillating axis, I increase *ad libitum* the movement I utilized before, so that my paralytic patients walk quite easily.

The utilization of a supplementary artificial axis of the coxo-femoral articulation is therefore of considerable help to all deficiencies of the hip, as well as to paralytics; it enables both to recuperate their motor independence.

Urology for the General Practitioner

V. Urinary and Biliary Lithiasis: Obscure Cholelithiasis—Roentgenogram After Injection of the Sinus, Gall Bladder and Gall Ducts With Sodium Iodide*

VICTOR COX PEDERSEN, M.D., F.A.C.S.
New York City.

Difficult indeed is the problem of ureterorenal lithiasis causing pain, as distinguished from other conditions causing pain with pus and blood in the urine but without stone, and still other conditions causing considerable obscure or severe abdominal pain but without definite urinary changes.

Gall-bladder disease is one of these affections; and when the patient is postoperative, the question whether or not a stone has been overlooked or has precipitated during the convalescence is important before considering any approach to the kidneys, unless of course the urine shows profound alterations and disease.

Aside from the various searching kidney tests, radiography is most requisite, because by covering the whole abdomen unexpected causes of the pain may be found. On this point elsewhere[1] I have said as to radiography:[1] "Positive findings occur in all but 10 per cent of cases and may be regarded, when positive, as the one incontrovertible proof of renal calculus. It is, therefore, par excellence an essential in the examination of all renal cases with pain."

The radiographic work must be carried out and the photographs interpreted by the same experienced technician, so that due familiarity with the conditions of the laboratory work will aid in interpretation of the plates and photographs.

Leonard[2] of Philadelphia, who finally gave up his life to his devotion to roentgen-ray work, formulated the following conditions of a successful renal plate, which are now accepted without question: "(1) The eleventh and twelfth ribs must be distinctly shown; (2) the transverse processes of the lower dorsal and lumbar vertebrae as wholes must show plainly; (3) the lateral border of the psoas muscle must be clear, and the shadow of the muscle itself unmistakable; and (4) the kidney shadow must be sufficiently distinct to reveal the usual outline of the organ."

Cole[3], however, gives the basis of radiographic diagnosis as follows:

"One is not justified in making a negative diagnosis of renal or ureteral calculus, unless a plate of the renal region shows the following details: (1) the spine and transverse processes should show distinctly all the way to the tip. (2) The outer border of the psoas muscle must show. In some very flabby, fat patients it may not show as distinctly as the kidneys. (3) The eleventh and twelfth ribs should show distinctly, and in many cases the bony detail may be distinctly seen. (4) In about 75 per cent of the cases the kidney may be seen more or less distinctly, and if special care in technic is used, it may be shown in nearly every case. (5) The liver is frequently seen, and at times it interferes with showing the convex surface of the upper pole of the right kidney. (6) The spleen also may be seen, especially if it is enlarged or congested. (7) Accumulation of gases in the colon and small intestines appears in circumscribed areas, and folds in the walls of the intestines are often seen traversing these areas. (8) Feces in the intestines, especially in the colon, show very distinctly, and interfere very materially with the diagnosis of renal lesions.

URETERAL. The plate of the ureteral region should include the third, fourth and fifth lumbar vertebrae, and part of the sacrum and ilium. The bony detail should show distinctly and the sacroiliac synchondrosis should be well defined. The outer border of the psoas muscle is clear, and the accumulation of gas and feces is frequently seen in the cecum or sigmoid. The course of the ureter is about on a line with the tips of the transverse processes, and at the sacroiliac synchondrosis. Calcified arteries are sometimes seen in the plates.

PELVIS. This plate shows the pubes, bony structure of the spine of the ischium, sacrum and coccyx all the way to the tip. The bladder distended with urine is sometimes well marked, also when injected."

An amazing list of errors in the interpreting of films is now extant, as I detail elsewhere[1] as follows:

Haenisch[4] gives the following collection of errors in the literature:

(1) Enterolith of the vermiform appendix (Weisflog);[5] (2) Exostoses of the ilium (Kochler);[6] (3) Sesamoid bone in the tendons of the obturator muscle (Caldwell);[7] (4) Carcinoma (scirrhus) of the head of the pancreas (Caldwell-Cole);[8] (5) Gall-stone near the same point (Caldwell, Cole[8]); (6) Calcified appendix epiploica (Brewer[9]); (7) Dense fecal scybala (Koenig, Jr.[10], Haenisch [4]); (8) Calcified blood clot in a highly degenerated carcinomatous kidney (Grosglik[11]); (9) Calcification of a segment of the aorta (Fenwick[12]); (10) Masses of bismuth as medication (Baetjer[13]); (11) Masses of salol as medication (Pancoast[14]); (12) Penis displaced upward upon the abdominal wall during the radiography (Kienboeck[15], Blum[16]); (13) Calcification of tuberculous foci in the kidney (Straeter[17]); (14) Symmetrical calcification of the vasa deferentia, with numerous phleboliths and calcified arterial branch (E. Fraenkel[18]); (15) Chronic induration of the renal parenchyma (Smart[19]), or scar tissue infiltration (Baetjer[13]); (16) Calcification of the mesenteric and other lymph nodes (Fenwick[12]); (17) Dense cutaneous scar in the kidney region, especially in the back (Haenisch[4]); (18) Defects in the photographic plates themselves (Blum[16]) and almost all other authors.

Further researches into the literature reveal these which I would add: (19) Calcified spots in the ligaments of the spine and the pelvis (Haenisch[4]); (20) Phleboliths, especially in the veins or the ureter and pelvis. (Pancoast[14], Baetjer[13]); (21) Stones in the Prostate

*Read before the Section on Genito-Urinary Surgery, at the New York Academy of Medicine, January 18, 1928.

(Haenisch[4]); (22) Lime salts in purulent focus of kidney pelvis (Baetjer[18]); (23) Sesamoid bones in great sacrosciatic ligament or muscles (Cole[8]); (24) Mass of gravel (Koenig[10]); (25) Tuberculous gland in pelvis of kidney (Koenig[10]); (26) Stains of thorium in the kidney substance (Busby[20])."

In completing the discussion of this subject, I have said also[1]:

"Busby's case occurred in the surgical service of one of the large hospitals of New York City. A roentgen-ray plate had proved negative for stone, but after a thorium injection shadows simulating the size, form and position of stones appeared in subsequent plates; these shadows persisted for five days, but at the operation of nephrotomy no stones were found. The nephrotomy was undertaken on the theory that stones previously invisible had been stained and rendered opaque to the rays.

"Haenisch in the article cited gives his own experience as follows: Albers-Schoenberg calcification of the end of the 12th rib (also condensation) apex of transverse process of lumbar vertebrae, calcified myoma, extrauterine pregnancy, prostatic calculi, dermoid cysts, calcification of the media of large arteries (iliac and uterine), deposits on spine of ischium, sacroiliac ligament (not proved), fecal calculi, calculi in ureteral diverticula, phleboliths.

"Nearly all the foregoing list have plates to prove the diagnosis. Haenisch makes mention of many plate faults. Most writers include blemishes in the plates themselves.

"It is to be noted that if shadow catheters had been used during the roentgen-ray examination, practically none of these errors would have occurred. This list shows that it is nearly wasted time to make roentgen-ray photographs of the kidneys and ureters without the shadow catheters extending from bladder to kidneys. The ureters in a marked degree and the kidneys in a less notable degree are not constant in number, form, size, position or direction. Many of these anatomical and pathological variations cannot be demonstrated by the roentgen-ray alone even with the shadow catheters."

I have myself had an extraordinary case[1] of nine phleboleths in the true pelvis of a woman any one of which might easily have been mistaken for a ureteral stone, if roentgen-ray catheters had not been used. Without any stretch of the imagination two other faint shadows may also have been phleboliths, making a possible total of eleven.

Case History

E. M. C., Canadian, white, thirty-nine years old, married, housewife, seen June 10, 1926. Case No. 15414.

Diagnosis: suppurative chronic cholecystitis, postoperative sinus, probably calculus in cystic duct, relapsing closure and opening of sinus; colon bacillus infection probable.

History: Sexual, marital and parental history unimportant. Constipation positive and probably the source of the colon bacillus infection. Ulcer of stomach diagnosed two years ago, with nonoperative treatment for six months. In January, 1925, three attacks of severe pain until about the end of March. The third attack led to the diagnosis of gall-bladder disease, for which operation was done January 6, 1926. Patient has never been well since. The gall bladder was not removed, owing to the severity of the attack and fear of peritonitis. No gall stones were found. Drainage of the infected bladder through the abdominal wall by the usual method. During the attacks there was no jaundice, and no known severe urinary symptoms. Emaciation by at least ten or twelve pounds; strength below normal; copious yellow green pus, without blood, odor or decomposition. At the present time her appetite is poor, but she is without nausea or vomiting. The attacks of pain continue almost as before the operation, beginning about a half-hour after eating but without any relation to the quantity or quality of food, and lasting many hours; the pain is situated in the pit of the stomach, increased by motion, decreased by resting, but not influenced by travel in automobile or trolley; referred to the right shoulder. At times she believes that gas is in the intestines, but does not pass it by mouth or rectum. Stools are said to have been black at times but no analysis for free or occult blood has ever been made, and no such stools have been passed while under my care. From January to June, 1926, the sinus has closed and opened eight or ten times. Such an attack beginning about February 22 confined her to bed for three weeks.

Physical Examination: A thin, semiseptic, anaemic woman. Sinus admits 8 F. olive-point ureteral catheter about 10 c.c., discharges pus, agreeing with foregoing description.

Treatment: Filling of the gall bladder with 20 per cent. sodium iodide for roentgen-ray picture, including both kidneys, to decide the condition of sinus, gall bladder and gall ducts and the presence or absence of stone therein and in the kidneys and upper ureters.

This procedure was carried out according to the technique and results hereinafter described.

The problem of this case, to my mind, was difficult and involved examination for the cause of the chronic gall-bladder sinus, the cause of the relapsing severe abdominal pain and the possibility that with the colon bacillus in the urine there might be a renal lithiasis more or less active or a pyelitis with symptoms during the attacks of pain.

The urinalysis was nearly normal, but as I saw her during a period of long respite from symptoms, this favorable status of the urine was far from evidence one way or the other. Its only significant findings were turbidity, slight; S. G., 1027; albumen, slight trace; pus, slight trace; calcium oxalate crystals, very numerous; Bacillus coli, numerous. During a severe attack the analysis might be totally different, especially in the pus and bacteria. Probably because of the reaction that radiography of the gall bladder caused, I was denied the follow-up study I keenly desired.

Because of the quiescent status, I decided not to catheterize the ureters unless the radiogram demonstrated a valid reason for it. Previous investigation for renal lesions or stone had been negative.

The report on the radiograps for renolithiasis is: "The two photographs (Figs. 1 and 2) were from the anterior aspect primarily for gall stones. On examination of the kidney zones nothing to suggest calculus is seen.

The technique of injecting the sinus, gall bladder and gall ducts was as follows: I took a roentgen-ray ureteral catheter, olive point, size 10 F. because, as the sinus admitted 8 F., I knew the 10 F. would be tight against reflux; it was passed about 6 cm. Then with a Record 20 c.c. syringe I very slowly injected the sodium iodide to the total of about 30 c.c. Injection was discontinued as soon as the slightest discomfort was noticed by the patient.

The reaction was quite severe and paralleled intense reactions after injecting the kidney-pelvis: pain, nausea, slight vomiting, but no shock and no depression. The patient was easily able to go home and remained in bed for about twenty-four hours.

The results of the injection are a very clear picture of

Fig. 1—Left Renal Zone.

Fig. 2—Right Renal Zone.

Fig. 3—Gallbladder Ducts and Calculus.

the sinus, gall bladder, cystic, hepatic and common ducts, as shown in Figure 3.

The radiographer's report reads as follows:

"There is evidence of a very faint shadow of the gall bladder, slightly irregular in outline, showing an incisura on its outer side. The liver is enlarged and extends about an inch below the arch of the ribs. After an opaque medium through a gall bladder fistula, the following was found: the gall bladder fills, evacuating its contents into the cystic duct, at the base of which, near the valve, there appears a defect the size of a small bean. The opaque fluid passes through a curl-like cystic duct into the ductus choledochus, and also retrograde into the hepatic ducts. *Conclusions:* pericholecystitic adhesions; stone in the cystic duct with consecutive dilation of its oral part; no evidence of calculi in the kidney region."

As the previous gall-bladder plates had been negative for stones and as there seemed to be no way of explaining the series of attacks, I determined to try a cholecystogram, using as in the renal pyelogram 20 per cent iodide of soda. I reasoned that as this solution never does permanent harm to the kidney substance it would not do permanent damage to the hepatic parenchyma.

Probably because of the reaction which, while natural enough, deservedly alarmed the patient and her family, I lost further contact with the subsequent history of the case except through a third party.

Up to about May, 1927, the woman had declined operation for the stone or for removal of the gall bladder, chiefly because her local and general health had improved, if changed at all. As far as I know this is her present condition:

"Report of husband, July 14, 1927. After injection of gall bladder in June, 1926, two weeks of more or less suffering followed; constant severe pain in the gall bladder referred to the right shoulder. Much nausea but no vomiting; bowels usually constipated, but not disturbed during this attack. No chill, fever to only 101F. Remained in bed for the two weeks. The pain in the right shoulder is so familiar that she knows it to be the signal of an attack. In short, the injection test brought on a standard attack of gall-bladder crisis. She remained perfectly well until Thanksgiving, 1926, showing the best closure the sinus had ever had. In the interval her condition remained most satisfactory, but then a short and very severe attack appeared with moderate nausea, no vomiting, extreme prostration, remaining in bed one week, no chill, moderate fever, and unchanged bowels." This last attack was so severe that the husband feels that an operation is required.

About September 15, 1927, I called this patient by telephone and learned that it is many weeks or months since she has been in as good condition as at present, in terms of weight, strength, digestion, defecation, urination and septic absorption. Her long rest in the country is undoubtedly a factor, as are also care in selection and mastication of food, cautious regular use of bile stimulants and diluents, regulation of bowels and general habits of life. She has postponed operation indefinitely, which in my experience usually means that an emergency may at any time arise during which she will be taken to the nearest hospital and lost to my care. It is, therefore, wise to publish this report now, although it is in nature preliminary. She has had definite warning that the interval of freedom from symptoms is usually the best and safest period for operation, because it is then an operation of election whereas, in contrast, the moment of crisis in a new attack is the most dangerous time, because the operation then becomes one of emergency and necessity. Of course no layman fully comprehends these points, which to a doctor are a matter of course. She has been warned to seek surgical aid at the first prodromal symptoms of an oncoming attack. These she fully describes, knows and says do not vary at all. If this case ever comes to operation in my hands I will publish a supplementary report.

This woman is certainly a colon bacillus infection case and has had her disease so long that she might well be called a chronic carrier, of course with the involvement of only herself. It is interesting to note that she has a sister who is also a colon bacillus carrier with the urinary system involved in almost constant diurnal and nocturnal irritation, pollakyuria and tenesmus, but no blood and little or no suppuration. I tried every approved method of eliminating the bacillus from her stools, blood and urine but attained only temporary success. She moved to Brooklyn. Here I referred her to Dr. Nathaniel P. Rathburn, who in his well-equipped clinic in the Brooklyn Hospital repeated and augmented my diagnostic and therapeutic efforts, and reached the same relapsing status.

The study of these two sisters convinces me that there is a group of self-infecting bacillus coli carriers who never fully recover unless we overcome the error in the intestines,—namely, the great overgrowth of the bacillus there, followed by their presence in the blood, then in the gall bladder, kidneys or urinary bladder, where under the least obstruction they alter and encite active suppuration.

In looking up new methods of investigating the gall bladder with radiography, I find that injection with any opaque preparation has never been published before, unless the report of it is buried in a general paper or obscured by being only a part of a discussion.

The following abstract is worthy of insertion because it shows recent preliminary work with phenoltetra-idophthalein, which may soon have a valuable clinical application is:

"A Dye Test of Renal Efficiency Which Also Reveals the Functional State of the Liver and the Visibility of the Gall Bladder." Ever since Graham, Cole and their associates introduced cholecystography into radiography, they have been searching for a salt which in addition to cholecystography can indicate the state of the liver function.

It will be recalled that Rosenthal, the pioneer in studying the behavior of the salts used now in cholecystography, had already experimented with them in hepatic functional testing. A certain amount of dye, which cannot traverse the liver, will stain the blood serum if an alkali is first added. The dyes are excreted by the kidney and the color may also be brought out by alkalinizing the urine. The subject is now in the chemical stage and the immediate object will be to find a dye which fills the requirements of cholecystography and at the same time will sufficiently stain the blood serum and urine. Those now chiefly in use for the first named requirement have rather low staining index. The authors report their preliminary work in the *Journal of the American Medical Association* for February 13, 1926. They turned to isomers of the salts now in use and seem to have found a satisfactory one in the sodium salt of phenoltetra-iodophthalein which is an isomer of tetraphenol-iodophthalein. The work has thus far hardly reached the clinical stage, at least in so far as the renal function is concerned.

We have here two patients each suffering from a prominent definite lesion. One is a gall-bladder infection and calculus and the other is a cystitis with general urinary infection. But the basic disease is back of the gall-bladder and urinary system. It is in the intestine and consists in the overgrowth there of the bacillus coli. In other words, no matter how successful any surgical operation may be, and no matter how satisfactory the immediate convalescence may be, if the underlying disease is the colon bacillus overproduced in the intestine the patient is still sick until this condition is cured. In other words the remote aftercare in all these colon bacillus infections requires full and prolonged medicinal attention to the intestines. These principles though so axiomatic are rarely uttered before medical meetings or appear in medical journals or text books, yet in the final analysis they represent about half our duty to the patient.

Difficult obscure cases, such as this gall-bladder patient and her sister with relapsing colon, bacilluria are, usually constitute real contributions to the problem which infection carriers and their inert, quiescent infections represent. Although they commonly acquire a high natural immunity to the organism underlying their disease any factor changing the environment and cultural conditions of that organism leads to an attack—always severe or intense and often rapidly fatal.

BIBLIOGRAPHY

1. A Text-Book of Urology in Men, Women and Children, 1919, pp.919-920.
2. Quoted by Pilcher: Practical Cystoscopy, 1914.
3. N. Y. Med. Jl., 1908, LXXVII, p. 774.
4. Roentgendiagnostik des Uropoetischen-systems, 1908, pp. 15, 16 and 17.
5. Fortschr. a.d. Geb. d. Roentgenstrahlen, 1907, X, 217.
6. Correspondence, Fortschr. a.d. Geb. d. Roetgenstrahlen, 1907, X 205.
7. Med. News, 1905, IXXXVI, 761.
8. Incorrectly given by Haenisch as Caldwell, Med. News, 1905, IXXXVI, 441.
9. Med. News, 1905, IXXXVI, 760, 4 Loc. cit.
10. In a discussion of a paper, Muench, med. Wchschr., 1908 LV, 25.
11. Monatsber. f. Urol. 1906, VIII.
12. British Med. Jour., 1905, 1, 1235.
13. Am. Quar. of Roentgenology, 1907, II, 17.
14. Remarks in Discussion, Med. News, 1905, IXXXVII, 807.
15. In a Society Meeting Report, Muench. med. Wschr., 1907, LIV, 2208.
16. Wien. klin. Wschr., 1907, XLIX, 1539.
17. Verhandl. d. deutschen Roentgengesellschaft, 1907, III, 90.
18. Verhandl. d. deutschen Roentgengesellschaft, 1907, III, 156.
19. British Med. Jour., 1905, II 617.
20. In a personal verbal report before the Medical Progress Club, New York. May, 1917.

45 West 9th St.

Supernumerary Breast Near Labium

J. Warren Bell, of Minneapolis, Minn., reports this interesting case:

"The patient was twenty-three years old when she noticed this tumor and pregnant for the third time. She fell on some sharp object and was injured in the region of the vulva. She thought that a boil developed because some thin yellow-white fluid appeared at the site of the injury. After that, with each pregnancy the mass enlarged somewhat, never receding between pregnancies. There were nine succeeding pregnancies, the patient having miscarried twice, one miscarriage being a twin pregnancy. Her normally situated breasts were small when at rest but swelled up and remained hard for a week when lactation began.

"I first saw her in August, 1922, at the University Out-Patient Department, University of Minnesota. She was then fifty-nine years old. The mass was about the size of an egg, attached just in front of the left labium majus by a pedicle 3 cm. in diameter. The mass was of variable consistency, quite elastic and not attached to the skin, which slid over it easily.

"Pelvic examination revealed a senile uterus. The adnexa were seemingly normal.

"On September 8, 1922, because of the inconvenience which the tumor caused the patient, I infiltrated the pedicle with 1 per cent novocaine and removed the tumor. The wound healed by primary union. The pathologic examination was made by Dr. E. T. Bell, who changed the diagnosis from lipoma to accessory breast.

"The specimen measured 7 by 5 cm. and was covered by wrinkled skin except for the cut surface of the pedicle. The tumor was slightly elastic, smooth and symmetrical. No evidence of a nipple could be found. On section the tissue appeared shiny and pink with a few small cystic areas.

"The inner portion of the tumor appeared to be made up of loose connective tissue containing a number of large plasma cells and areas of tubes and acini lined with epithelium, which as a rule is cuboidal. Where the acini were dilated the epithelium was proportionately thinned out, and in the larger cysts was of a very flat type. The whole appearance is that of a resting breast with cystic disease present.

"In November, 1925, she reappeared with the story that she had a cancer in the pelvis. Examination revealed a change in the pelvic condition, involving induration of the broad ligaments, a nodule in the rectovaginal septum and infiltration of the vesicovaginal septum, with bleeding on manipulation. The scar of the old tumor site showed no sign of recurrence. A very evident inoperable carcinoma of recent rapid growth had developed since the time of the operation, September 8, 1922.

"A later report from the University Hospital where the patient was sent for palliative treatment states that there was an ulcerated crater present and that the tissue was squamous carcinoma.

"The subject of polymastia is completely covered by Deaver and McFarland, who bring out the fact that a single supernumerary breast has been reported more than forty times in males and about twice as frequently in females, accessory breasts in the female being chiefly below the normal site, occasionally being found in the region of the labia. My case, I believe, is the third single accessory breast reported in this location. According to Deaver, two other cases appear in the literature with breasts located in the labial region.

"Referring to comparative anatomy of the primates, *Tarius spectrum*, in addition to the pectoral glands, has an inguinal pair.

"In the aye-aye, *Chiromys madagascariensis*, there is but one pair of nipples situated about an inch and a half in advance of the vulva and about an inch apart. The lower animals not uncommonly have inguinal breasts, some having breasts on the outer side of each thigh. All cetacea have the mammary glands upon the vulva, i. e., labia.

High Prevalence of Diphtheria Continues

The increased prevalence of diphtheria which was noted during the first three quarters of the year 1927, continued during the fourth quarter. The number of cases reported in 1927 was greater than the number in 1925 or 1926, but the 1927 diphtheria rates are low when compared with the rates of a few years ago.

Dicephalus, A Case Report*

P. Brooke Bland, M.D.
Philadelphia, Pa.

It is altogether probable that there is no perfect human being in the true anatomical sense. Deformity, therefore, may vary from an almost imperceptible condition to disorders of such magnitude as to almost beggar description. Gross deformity, as portrayed in the specimen herewith described, is, fortunately, extraordinarily uncommon.

Clinical History: Except for a history of the birth of a single set of twins on the paternal side, the family record is negative.

The patient, Mrs. G. McC., twenty-eight years of age, began to menstruate at the age of thirteen. The flow always recurs regularly and the cycle is of the twenty-eight day type. The duration is from four to five days and the quantity discharged is not abnormal. It is not associated with pain nor the expulsion of clots. The last period occurred on February 10, 1926.

The patient was married at the age of twenty-one. She has had one previous pregnancy which terminated normally at full term. The labor occurred on February 23, 1921.

Following a period of amenorrhea lasting from February 10, to the middle of May, 1926, the patient complained of slight irregular bleeding. This symptom combined with intermittent attacks of mild pelvic pain, was regarded as a threatened abortion. The bleeding or spotting continued for almost three weeks and then gradually subsided.

During this time the patient was kept absolutely quiet in bed and under the influence of sedatives. From the middle of May until October 20, the day labor began, the general health of the patient was exceptionally good. At no time did she suffer with symptoms of toxemia, though for two months prior to delivery the abdominal distention was much greater than in her previous pregnancy, indicating, according to Doctor Gilger, her family physician, a mild degree of hydramnios. The suspicion of his complication was confirmed by the expulsion of an excessive quantity of amniotic fluid during labor as well as at the time the bag of waters ruptured, ten hours before labor actually began.

The rupture of the membranes was provoked, the patient stated, by straining while in an exaggerated stooping position. Six hours following rupture, the patient was seen by her family physician, but there was no other sign of impending labor. Four hours subsequently, or at six P. M., active uterine contractions began and the patient was delivered at 9:30 P. M., three and one-half hours after active labor started.

The presentation was a breech with the left foot protruding from the vulva. After the usual preparation, efforts were instituted to extract the fetus, but difficulty was encountered immediately. Finally, the body and one head of the infant, *a female*, was delivered. An examination made at this time revealed another head in the pelvic cavity. After some manipulation the second head was delivered without special difficulty, although the patient sustained an extensive laceration of the posterior vaginal wall and perineum.

Owing to the favorable condition of the patient after the completion of the third stage, a primary repair was performed.

Fetal Measurements: The measurements and weight of the fetus are herewith appended:

Right Head:	*Left Head:*
Bitemporal, 7½ cm.	Bitemporal, 7¾ cm.
Biparietal, 9 cm.	Biparietal, 9½ cm.
Frontomental, 8½ cm.	Frontomental, 8½ cm.
Sub-occipito-bregmatic, 10 cm.	Sub-occipito-bregmatic, 10 cm.
Occipito-frontal, 11 cm.	Occipito-frontal, 11 cm.
Occipito-mental, 11½ cm.	Occipito-mental, 11½ cm.
Circumference, 31½ cm.	Circumference, 32¾ cm.

Body:

Bi-Acromion, 9 cm.
Bitrochanteric, 14 cm.
Circumference of chest, 32½ cm.

Length:

46 cm.

Weight:

3280 grams (a little over seven pounds).

Condition of Child After Delivery: The fetus, a female, did not show serious sign of asphyxia. Its color was fairly good. It was born alive as disclosed by cardiac activity as well as by the fact that inspiration and expiration were observed for more than one minute.

Sex and Frequency: The sex of this specimen adds confirmation to the general conviction that double monsters are of the female sex in most instances.

Birnbaum places the relative proportion of female and male double monsters as three to one.

Taruffi (1891), in a study of 855 collected cases of fetal deformity found females 540 times and males 315 times.

On the other hand, according to Marchand, single monsters are infinitely more common in males. This writer, from an analysis of 158 cases, reports 103 males and 55 females.

There are no reliable data on which one is able to base the actual frequency of gross fetal malformation, since many writers report only the most extensive types of deformity, while others record all varieties of developmental defect.

Schwalbe, whose work is referred to by most authors, quotes a series of writers who have contributed to this phase of the matter as follows:

1. Chaussier (1812) 132 cases in 22,293 labors.
2. Possibly one in five or ten thousand labors is not far from the mark. Tweedy I might add parenthetically, during his mastership in the Rotunda Hospital, Dublin, encountered three double monsters in 13,700 deliveries, or one in 4,566 labors.
3. Geoffroy St. Hilaire reported 1 case in 3000 labors.
4. Puesch 7 cases in 728 labors.
5. Schworer 1 case in 455 labors.

These figures obviously include all degrees of departure from the normal human architecture.

Malformation of an outstanding nature is, of course, not observed anywhere near the extent the figures (3, 4, 5) quoted would seem to indicate. It is altogether clear that monsters of the dual type, such as portrayed by the specimen herewith recorded, must be regarded as surpassingly curious.

The specimen described in this paper is the first and only example of fetal duplication observed in the Department of Obstetrics, Jefferson Medical College, since 1900

* Read at the regular meeting of the Philadelphia County Obstetrical Society, February 3, 1927. From the Department of Obstetrics, Jefferson Medical College Hospital.

and we have no record of a similar case being observed prior to that time.

With the several thousand maternity patients cared for, both in the in-service and out-service, during the period mentioned, all forms of minor developmental departure have been encountered, but no case of gross or dual union has been seen.

Definition: A proper definition of what actually constitutes a double monster, as Schwalbe properly remarks, is beset with considerable difficulty, since to draw a sharp line of distinction between a double and single human organism is almost impossible. Schwalbe bases his definition, he says, not on the mode of origin of anomalous development, but on its morphological character. A double monster he defines as one which shows at least some duplication of the axis of the body. According to this definition, one is enabled to distinguish or separate double monsters from those cases exhibiting duplication of the arms or legs.

As regards the extent of duplication, it may be said that the degree of development may be complete or incomplete, thus giving rise to the classification:

a. Duplicitas completa.

b. Duplicitas incompleta.

The first or complete variety is by far most commonly encountered. In this type the fused bodies, however, may be equal or unequal in development. In those cases showing inequality, the twin with the greater degree of development is designated an autosite, while its less mature companion is termed a parasite or a bigerminal teratoma. Since no heart forms in the parasite, the nutrition must be carried on by its more mature brother or sister.

At this time, it may be of interest to mention that, while dual fusion is extremely rare, triple union, as one would assume, is seldom seen, though triplication, it is claimed, is found with relative frequency in the lower animal kingdom. The exceedingly small number of triple monsters heretofore recorded, Strassman regards as examples of the union of a complete double monster with an incomplete double monster. This writer cites the extraordinary case reported by Reina and Galvagni (1834), a monster having three heads, three upper limbs, two united trunks and two lower limbs with a single set of male genital organs.

Classification: From the complexity of gross fetal deformity, it is, also, somewhat difficult to provide a wholly satisfactory classification of dual monsters.

Förster's familiar classification is as follows:

a. Duplicitas anterior (superior).

b. Duplicitas posterior (inferior).

c. Duplicitas parallela.

Taruffi outlines the following classification:

1. Double monsters with union in the region of the epigastrium and thorax.

2. Double monsters with union between the cephalic poles.

3. Double monsters with union between the pelves.

Taking the above as a basis, that well known author of Antenatal Pathology and Teratology, Ballantyne, constructed the following simple classification:

1. A monster double above, but single toward the podalic pole.

2. A monster double below, but single toward the cephalic pole.

3. A monster separate at both the cephalic and podalic poles, but fused in the middle.

Origin: All double monsters have their origin in a single ovum and this is the only fact so far adduced with regard to their primary origin.

Numerous hypotheses have been advanced as to their etiology. Since they originate in a single ovum, they are always provided with a single placenta, a single chorion and are always of the same sex. If it is possible to trace a difference in the sex, the occurrence should be looked upon, it is claimed, as an example of true hermaphroditism.

The fact that double monsters possess a single amnion, proves, according to Birnbaum, that their formation takes place at a very early period of development, or at a time antecedent to the age of the youngest ovum described, namely: that of Teacher and Bryce. This ovum was estimated to be about thirteen or fourteen days old. Here the amnion is found fully formed, although the embryo itself is still in the trilaminar stage.

It may be said that the specimen described in this case report, literally, portrays that well known couplet of Belinghausen, provided the fetus could think at all:

"Two heads with but a single thought,
Two hearts that beat as one."

The specimen, also, shows, as do all specimens of dicephalus, that the division of the body is much more extensive than indicated by its external appearance. This extensive division is well portrayed in the radiograph and, also, by studies made post-mortem.

Several examples of this type of fetal deformity have been recorded, though the number, as one would surmise, is not large.

Hohl's report of 119 cases is the largest and probably represents all or nearly all of the cases recorded prior to the publication of his report in 1850. Here it may be of interest to note that there were recorded eighty-five cases of double monsters in Great Britain and France from 1920 to 1925 inclusive.

The best known example of this variety of monster was Ritta and Christina, born in Sardinia, on March 13, 1829. These twins, of the female sex, had four upper extremities and two lower. The vertebral columns, divided above, were joined below by a rudimentary innominate bone. There was, also, a union of the two manubri.

Other celebrated examples were the "Scottish Brothers" who lived for twenty-eight years, the Tocchi Brothers and Marie and Rosa Drouin.

Obstetrical Significance of Double Monsters: Apart from the interest and curiosity associated with gross fetal maldevelopment, the condition itself has a real obstetric significance, especially depicted in this case report.

It is obvious that the unusual development encountered, in cases of this sort, may render labor exceedingly hazardous, if not impossible. It is quite clear, also, that unless the condition be recognized early and properly treated, uterine rupture may occur. This unfortunate catastrophe, owing to the small size of twins and the frequent premature termination of pregnancy, is not common. The tendency to podalic presentation and early intra uterine death of the monster (the latter condition favoring compression and moulding), also, favor a spontaneous or uncomplicated expulsion.

These favorable circumstances, however, can not always be depended upon. Hence, in a certain number of cases, serious trouble during labor may arise. Moreover, owing to the extreme rarity of the condition, no obstetrician is afforded wide opportunity to readily recognize and deal intelligently with conditions of this kind.

Fortunately, in most cases, nature seems to adequately take care of the situation and in the cases recorded it is surprising to find that complications of a frequent and serious nature have been inconspicuous.

In addition to the complications which may arise during labor, the question of diagnosis during pregnancy is of some interest. In this connection, it may be said, that rarely is gross fetal deformity recognized prior to labor.

Plural pregnancy may be suspected and an associated hydramnios, so frequently an accompaniment of fetal deformity, may even suggest some disturbance in the architecture of the uterine contents, but rarely is the true nature of the trouble recognized during gestation.

It would seem a prudent policy to study all suspected

Figure 1. Photograph Showing View of the Fetus

cases of plural pregnancy. Roentgenologically, for it is at least possible to recognize gross maldevelopment, thereby.

From a study of the reported cases, it is somewhat comforting to learn that most labors, in dual union, not uncommonly take place spontaneously.

In 119 cases, collected by Hohl, natural delivery occurred in 73.

In 31 cases, recorded by Playfair, normal delivery took place in 12.

In the cases reported by Hohl, forceps was used in two, extraction was performed twelve times, version three times, version with extraction eight times, hook extraction one time, head and arm extraction one time, arm extraction one time, embryotomy two times, Cesarean section two times and various operations as, forceps, perforation, version, etc., fourteen times.

In forty-nine cases of dicephalus, reported in the Transactions of the Obstetrical Society of London, there were twenty-three spontaneous deliveries, nine forceps deliveries and seventeen deliveries by podalic version.

Among the artificial deliveries, reported by Hohl, twenty-nine mothers recovered and four died. In fourteen, the result was not mentioned. Of those delivered spontaneously forty-seven had normal recoveries. In twenty-seven the result was not stated. These figures indicate that the prognosis is much more favorable for the mother than one would suppose.

Of the children delivered artificially, twenty-seven were stillborn and five were born alive. Of those delivered spontaneously twenty-two were dead, twenty-nine were alive and in twenty-two instances the result with regard to the fate of the baby was not stated.

An autopsy performed by Doctor Frank W. Konzelmann, disclosed, besides the two heads, two necks and two spinal columns, an almost complete duplication of all the organs within the thoracic cavity, as well as those immediately beneath the diaphragm, namely: two stomachs, two duodeni and two pancreatic glands. The gall bladder and bile passages were not duplicated and the liver itself was not grossly altered.

Doctor Konzelmann, Mr. President, who is present, has prepared a clay model of the viscera of this specimen and he would, I am quite sure, be glad to demonstrate the model to the members of this Society, either at this time or after the completion of the Scientific Program.

The accompanying illustrations portray the dual character of the fetus:

Autopsy Report Submitted by Doctor Frank W. Konzelmann

Specimen. The specimen is a well nourished, white female, newly born child with two well formed heads. Each head is supported by a neck, the two necks uniting about the level of the third cervical vertebra to form a common structure attached to the thorax. The anterior, posterior and lateral aspect of each head is well rounded, but the inner aspect on each side is somewhat flattened as a result probably of the two surfaces being pressed against each other. There is a very slight tilting of the features, the mouth upward, the nose medially and the eyes downward. The ears, eyes, nose and mouth are normal.

The thorax is broad. Anteriorly it has a normal appearance. Posteriorly, one can see two distinct ridges, each about a half a centimeter from the midline. At their termination, below the level of the illiac crest, there is a small dimple. These ridges correspond to the spinous processes of the two vertebral columns, as seen in the skiagraph. Across the midline they are joined by rudimentary ribs. The recently severed stump of the umbilical cord is clean.

The anus and external genitalia are normal. The extremities are normal. The skin of the entire body is cyanotic. The lips and finger and toe nails are a very

Figure 3. Radiograph Showing Bony Framework of Fetus

deep blue. Cyanosis in the left leg is more marked than in the right.

Examination of the Viscera

The Cardiovascular System. A heart, apparently single, lies in the midline at the usual normal level. It is confined within a normal pericardial sac, and is bathed with a small amount of fluid. The heart is larger than normal and is more rounded. Two distinct auricles are not distinguishable.

There is a large auricle at the base which lies behind two arterial trunks. These arise from the ventricular portion of the right side and the left side of the heart respectively. A small sacular dilatation of this auricle

protrudes from between these vessels. When opened, the auricle is found to be a single large structure with irregular but thin walls. It is engorged with blood. On its right side it receives laterally through a single ostium, blood from the pulmonary veins of the right side of the body, and through two similar openings on the left, blood from the pulmonary veins on the left side of the body.

Posteroinferiorly it is connected with a right and a left inferior vena cava. Superiorly the auricle extends upward in a cone shaped structure which receives a single superior vena cava. Coronary sinuses drain into the auricle.

The right subclavian vein appears to empty into this chamber directly. Blood may pass through one of two orifices guarded by valves, into the ventricles. The valves are well formed but irregular. It is not easy to distinguish the number of leaflets, but there seems to be three for each orifice.

There is a ventricle on the right and one on the left side of the heart. These are separated from each other by a distinct muscle membranous septum. Each ventricle partakes of the nature of a double chamber. The one on the left gives rise to two vessels. An anterior vessel has its origin in a narrow groove or canal in the base just to the left of the midline. The orifice of this vessel is guarded by well formed semilunar cusps. This vessel curves spirally around the posterior vessel and connects with two branches which enter the lung tissue on the left side. The posterior vessel springs from beneath the anterior in the same chamber and thence follows the course of the systemic aorta.

On the right side, the ventricular chamber gives rise to only one well formed vessel which will be described as a systemic aorta. To the right and slightly behind this there arises from the auriculoventricular groove a solid cord, which later developes a lumen, joins with a branch from the right aorta and travels to the lung tissue on the right. I regard this cord as a remnant of the pulmonary artery.

Aortae. The left aorta springs, as already mentioned, from the left side of the heart from a common ventricle. It courses behind the pulmonary artery giving rise to two common carotids. These follow a comparatively normal course in the left head. Beyond the carotids, a single short trunk connects with two vessels, one of which follows the course of a vertebral for the left side of the left head and one, that of the left subclavian artery.

A ductus arteriosus is formed which connects with the vessel described as the pulmonary artery. The aorta arches around to the left, passing between the two left lungs, through the diaphragm.

A coeliac axis supplies branches to the left stomach, spleen and pancreas. Another branch given off by this vessel is apparently the inferior mesenteric. The aorta terminates on this side in a common illiac which is connected with a single femoral and umbilical artery. There is no branch corresponding to a right subclavian arising from the left aorta. A small vertebral artery exists alone as an aortic branch. The right aorta serves as the only outlet for blood of the ventricle on the right. It is guarded by normal semilunar valves. It passes upward, curving to the right and then almost directly posteriorly and finally downward between the two right lungs. About one centimeter from its origin it provides a vessel which connects with what has been described as a pulmonary artery. I take this to be a ductus arteriosus. Near the origin of the ductus, a short common trunk provides a subclavian and common carotid. The latter courses along the right side of the right head. A left common carotid for the right head also arises from the arch. A very small branch originates distal to this, corresponding to a vertebral artery. No left subclavian can be found. In the abdomen, a coeliac axis is found, supplying the right stomach and pancreas and forming a hepatic artery. A superior mesenterio, two renal and adrenal vessels, two ovarian arteries and an inferior mesenteric artery are present. This vessel terminates as did the left aorta.

The superior vena cava is a large vessel two cms. broad. It terminates in the cone shaped fashion already described. This vena cava receives a single large branch coming from the abdomen which corresponds to an azygos. The superior vena cava is formed by the union of the juglar veins from each head. The left subclavian empties into the cava, but the right empties into the common auricle. It follows a course anterior to the root of the right lung, similar to the course followed by the vein of Marshall. There is a single inferior vena cava, which, however, in the liver divides into two hepatic branches. These pierce the diaphragm and enter the common auricle independently.

The Respiratory System: Each head and neck is provided with a larynx and a trachea. The latter pass to the right of the right vertebral column and the left to the left vertebral column respectively. Each trachea has a right and a left main bronchus. On the right side there is a well formed pleural cavity which contains a well formed, three lobed lung. The lung is collapsed, firm and airless. What should correspond to the left lung of the right trachea lies behind the heart and on top of the vertebral column. It has three lobes also and is deeply grooved by the aorta which passes over it. The left trachea connects with two lungs also. Its own left lung is well formed, has two lobes, but is airless. The right lung has only two lobes. It is small, lies behind the heart on the left vertebral column and is grooved by the aorta which passes over it. Each of the *four lungs* lie in a separate pleural cavity.

The Alimentary System: Each mouth has its individual esophagus. Each esophagus courses in the neck in the normal manner, follows the tracheas, passes behind them and between the lungs and on through the diaphragm. Each ends in a stomach. The left stomach is the larger and is practically normal in position, though perhaps slightly displaced to the left of the midline.

The right stomach is small. Its position is reversed-like its mirror image. Each stomach is united to a duodenum.

The duodenum of the right side unites with the one on the left to form a common duodenum. This union is marked by the entrance of a single common bile duct. From this point to the anus there is no duplication. The small intestine follows an irregular course. It has many anomalous kinks and mesenteric investments which seem unsolvable.

The appendix and cecum are normal in structure, but displaced to the left of the midline. This renders the transverse colon a short, sharply curved structure.

The descending colon and sigmoid follow a normal course. The colon contains meconium.

The liver, though large, is normally placed in the abdomen. A mass of liver tissue which I take to be the caudate lobe, has pushed upward through the diaphragm and lies between the two esophagi in the thorax behind the heart. It is covered by peritoneum. Behind it are found the two aortae.

The bile passages and gall bladder are normal.

There are two pancreatic masses. One lying behind the left stomach has a duct which enters the common

(*Concluded on page* 102)

Stricture of the Female Urethra

Recent Clinical Studies

WINFIELD SCOTT PUGH, B.S., M.D.,

New York City.

Introductory

A few years ago there appeared a very cleverly worded advertisement, the substance of which was as follows: "Great oaks from little acorns grow—great aches from little toe corns grow." A similar phrase might well be allotted to the female urethra. It is such a little organ, mighty short on anatomy but very long on pathology. It has always seemed to me that there were two subjects greatly slighted in the anatomical courses. One is the great muscle groups of the back into which, however, a few delve, but of the female urethra none gives a thought.

We are developing a so-called advanced school of urology, whose members do not like to have their names associated with the study of venereal disease. Neither do they derive any interest from the study of the male and female urethra. In our humble opinion certainly 75 per cent of the patients who come of the urologist have a decided venereal background. No one can therefore afford to overlook the urethra. It is not merely a tube through which to pass a cystoscope but an organ of great importance. Diseases involving the female urethra may simulate lesions of the kidney and organs even much more remote. Great damage may be done before the little joker in the urethra is discovered. When a patient is temporarily relieved by a cystoscope at least think of the woman's urethra.

The Archives of Medicine hold scant but rather interesting comments on stricture of the female urethra. Von Frisch tells us that it has been mentioned at least as a possibility by Fabricius of the old anatomical school of Padua. The first real description is that of Lisfranc in 1824. Following the above author it next appears in the literature in the works of Civiale 1850. To this author also belongs the credit of having established the response of the sympathetic nervous system to urethral lesions. This is a factor of considerable importance. Twenty-five years later Newman in 1875 recognized the importance of stricture of the female urethra and advocated its treatment by electrolysis. Fissaux in his reports in 1879 reviewed the subject and emphasizes its importance.

Van de Warker in his papers in 1887 and 1890 strongly brings this subject to our attention. This writer states that all of the great writers on urinary and gynecological conditions seem to treat with silence a matter of great import, namely that of stricture of the female urethra. His articles are of striking interest. It was Skene who in 1887 called our attention to the fact that while urethral stenosis in the female was not an everyday occurrence, it was seen often enough to require serious consideration. On the basis of Skene's statement this matter was taken up by the London Obstetrical Society in the same year. Many interesting comments were made at that time.

Otis in 1892 started a systematic study of obstructive lesions of the female urethra, but for some reason they were never carried to a successful completion. The following conclusions from some of the writer's works are most striking and convincing. He states "strictures of the female urethra occur in a sufficient extent to induce reflex conditions as varied and severe as those of the male." Otis also believed that where lesions of the female urinary apparatus did not respond well to treatment, the uethra should be explored with the bulbous sound, and the urethrometer. Urology owes a great debt to Otis for his introduction of the bulbous sound, for without it the excellent work of others would not have been possible. It is said that he also advocated the use of the wax tip, later amplified by Kelly and Dr. Burton Harris, for use in vesical and ureteral lesions. In the textbooks on urology and gynecology there is comparatively little space allotted to the subject of urethral stricture in women. The possibilities of urethral infections aside from definite stricture are so well known as to require but little comment. It, however, remained for Stevens of San Francisco in 1920 and 1922 to make the first real scientific investigation of this disease.

Incidence

It is apparently routinely taught and generally accepted that stricture of the female urethra is rather a rare entity. Of this we have never been convinced. An examination of the literature is not of great assistance as it is scanty, to say the least. When we first began our original studies we examined over 3000 gynecological and urological records in this country and abroad. We found but four cases definitely diagnosed as urethral stricture of the female. These were all cases that were readily diagnosed, one as carcinoma, one obstetric tear into the urethra and three cases of marked gonorrheal infiltrations. Since the foregoing we have made other extensive reviews, with practically no further results.

Hunner in his contributions to the literature speaks of narrowing of the urethra associated with ureteral lesions. In some of his case records there is evidence of marked urethral infiltrations. He is quoted by Stevens as finding 60 per cent of those suffering from ureteral lesions to have a urethral narrowing as well. Bugbee states he is surprised to find the extent to which stricture of the urethra exists in women.

Osgood tells us that the urethra of the female is analogous to the membranous urethra in the male. Stricture of this portion of the urethra in the male (because of the squamous epithealium, which offers resistance to infection and its absence of glandular structures in a continuation of the mucosa) is rare. He says this condition exists in the female urethra as well. Reasoning in this manner would seem sound, both from an anatomic as well as theoretical standpoint.

Stevens, W. E., believes that stricture of the female urethra is usually missed by both the urologist and gynecologist. Of this there can be little doubt. This careful student found ninety cases of stricture of the female urethra in one hundred and sixty-nine urological cases. We would do well to take these statements seriously. Certainly they emphasize the importance of the disease.

Wynne quotes Winckel as having noted three cases in three thousand records. Winckel in his early essays

and in his latest textbook also states that we are dealing with a rare lesion.

Meisel of Budapest found three hundred and seventy-eight strictures in the male to one in the female.

Pasteau collected twelve cases from the literature.

Fischer records four cases in four thousand records.

Herman in England noted sixty-nine cases.

The similarity in the percentage reports in the larger series of cases are rather striking. In a previous report we stated that we had found urethral stricture in thirty-five out of one hundred and eighty women examined, that is, presenting themselves for urological examination. Since the above notes were made we find that our record is now eighty-six cases found in four hundred and sixty examinations. While this is by no means a large number we cannot help but feel that this incidence appeals to us as fairly frequent. Most writers stress the point that stricture of the female urethra is rare, and with this dictum in mind, few of us look for it. In fact Stevens is quite correct when he states most of us are too ready to accept the statement as final.

Etiology

In discussing the cause of this condition many medical writers seem to have ventured quite far afield, while the real factor was among the best known offenders. Winckel, undoubtedly an investigator of great repute, and an authority on diseases peculiar to women, believes that trauma is important. He in fact insists that birth injuries stand first as etiological factors. Catheter injuries and other accidents are advanced by Stoeckel, Pleschner, Hoehne, Teleky, etc. Neoplastic pathology is drawn on extensively, more particularly by Goldschmidt, Heinrichsdorf, Kleinwachter and Teleky. In a careful review of these papers no great detail as to the pathology is given so that often one is left in doubt as to the exact lesion. Two new growths are particularly mentioned, one is caruncle and the other pappilloma. The members of the London Obstetrical Society in the late eighties were impressed by the relatively frequent occurrence of lupus and lupetic ulceration in these cases as noted in the excellent reports of Herman, Duvean, and Gallapin. The latter also mentions syphilis as a cause. In several of the papers presented at the London Conference some of the cases reported would seem to be more suggestive of syphilis than tuberculosis.

Bumm and Wagner according to Wertheim mention congenital narrowing senile prolapse and vesico vaginal fistula as not unusual factors.

It is in America that one hears most of the gonococcus in its relation to urethral stricture. Skene was of the opinion that the cause of stricture in the female was the same as in the male, in other words, the gonococcus in the vast majority of the cases.

Graves speaks of gonorrhea as well, along with birth trauma, as a factor. Kelly, Burnham and also Osgood mention gonorrhea, syphilis and tuberculosis in the etiology. Hunner and others refer to focal infections as a possibility. In view of the great army of gonococcus infections which we have treated or supervised during the past twenty-six years, we are a bit skeptical of focal infections in connection with urethral disease. We agree with Stevens that focal infections must play a very small part.

In any discussion of etiology, if one considers the common conditions first, he will be less likely to err. When dealing with any condition of the genito-urinary tract the gonococcus must not be lost sight of. Those of us who have been long in the struggle with this organism, realize only to well its extensive distribution and its refusal to consider race, creed or social status.

In discussing gonorrhea in the female with physicians at a consultation it is surprising how few of them think of a urethral infection as associated with a vaginitis. In our consultations we often see cases of gonococcus infection limited to the urethra, and many in which the urethral infection is overlooked entirely.

To what extent is a urethritis associated with a gonococcus vaginitis? In the literature we find Brünschke recording 90 per cent, Bumm and Brose 95 per cent, Finger and his pupils 75 to 90 per cent, Faby 52 per cent, Laser 33 per cent, Luczny 85 per cent, Schultz 78 per cent, Boyle 88 per cent, Steinschneider 91 per cent, Welander 89 per cent and Pryor 90 per cent. Of particular severity is the gonococcal honeymoon urethritis; in which the vagina is often not infected at all. We believe the pregoing figures are impressive and stress the gonococcus is the chief factor in the disease under consideration. Another important point is that the gonococcus persists longest in the anterior third of the urethra, the most common location of stricture. Practically all of the socalled etiological elements sink into oblivion when compared with the gonococcus.

Embryologic conditions may produce factors which to say the least predispose to urethral obstruction. This is rendered evident by the excellent work of Bugbee and Wollstein. In a series of 86 cases we have a definite history of gonococcus infection in 77, chancroids in 3, keloid 1, syphilis 1, vague etiology 4. We cannot escape from the impression that the doubtful cases are Neisserian infections.

Pathology

We believe as above noted that there is practically always an antecedent urethritis. Urethritis practically always becomes chronic, many are not seen and not cured. Our knowledge of the pathology is not extensive. The stricture formation however usually begins on the floor of the urethra, where the gonococcus infection has been most intense. From this point the process will often encircle the entire urethra and annular strictures are not infrequent.

From our examinations we consider the strictures as being soft and dense. The Oberlander classification of infiltrations as soft strictures and hard strictures of the first, second and third degree may well be applied to the female urethra. In traumatic or obstetric lesions we have the usual surgical pathology of a crushing lesion, ulcers and neoplastic conditions differ in no way from these lesions, situated elsewhere.

Symptoms

In investigating urethral lesions a careful history is of the utmost importance. This, however, is where we usually run into difficulties. We all know how difficult it is to obtain a venereal history even in our better class of patients. This is undoubtedly incident to the hypocrisy which surrounds a discussion of sex matters in this country. It cannot be denied that many women suffer from gonorrhea for a long time without knowing it. A history of whites should always arouse our suspicions. A history of childbirth injury or an operation following the same should be carefully noted. Urethrovagnal fistula is of particular import. Obstetricians tell us that injuries apparently mild, sometimes produce these lesions; of this we are not convinced. A history of malignant disease—tuberculosis or of scarlatina, typhoid fever or pneumonia may be of assistance. Do not overlook the local use of cauterants, or strongly astringent vaginal douches. The latter is particularly important at times.

Among the clinical cases reported we see notes to the effect that the typical symptoms do not become marked until the patient notes an increased difficulty in emptying the bladder. This difficulty may sometimes be extreme. One would naturally expect this to occur, but it is by no means always the case, except in late cases with complete obstruction. In a number of cases the symptoms will more strongly suggest abdominal and renal lesions. In others the symptoms are apparently so remote from the urinary system that one may be inclined to class these patients as neurotics.

The retention of urine by women for long periods is so common, that they often think a retention is natural. Far more do women complain of dribbling (really an incontinence of retention) than they do of obstruction. Slight obstruction is however often sufficient to produce a marked cystitis and urinary changes. Some writers believe that symptoms of ureteral stricture occur earlier in women than they do in men. This remains to be proven.

In our cases, the symptoms impressing us as of most importance were dysuria, urgency and frequency. Signs of a toxemia were also not infrequent. A series of cases reported by Stanton are of particular interest. The symptoms in his group were often referable to the upper urinary tract and bring out the relationship between the urethra and kidneys through the sympathetic nervous system. This syndrome has been but little noted before, but we have seen it in many of our patients. We have learned, as you will note, that there are no classical symptoms in urethral stricture of the female. If, however, we take a careful history, and make a careful complete urological examination we will usually locate the lesion. When a male patient comes into our office we never fail to make a careful urethral examination, using a bulb whenever practicable. Do we examine the female in the same way? The answer is, the gynecologist never and the urologist rarely. It should always be done, using the bulbous bougie for the purpose. We will miss most of them with a metal sound.

Urethroscopy is always indicated in urinary lesions of the female. It is seldom done, even by our most experienced technicians. When we are able to use a small urethroscope we find at times that it meets an obstruction and on withdrawing it the lesion is definitely seen. Hard infiltrations will at times grasp the instrument rather firmly.

In our hands the roentgen ray, as a diagnostic medium has not been at all satisfactory. It is hoped that later the new technic of urethrography will faciliate the diagnosis.

We now arrive at the point which probably will cause most discussion. Namely, what do we consider a stricture? Students of anatomy are wont to speak of the female urethra as a musculo-membranous tube of about 2½ to 3 cm. long and generally about 7½ mm. in diameter. Its greatest width is midway in its course; where the dilatation is somewhat spindle shape. It is naturally important to consider the average normal size of the canal at its narrowest point. This particular area in the experience of most observers is just within the external urinary meatus.

Herman found that the urethra in 56 patients between the ages of eighteen and seventy varied between 7 and 12 mm. in diameter. Van de Warker believes that a urethra taking a bulb less than 16 F is abnormal. Stevens speaking from a large experience tells us that strictures above 18F will often cause symptoms and regards 26F as normal. His list of averages is interesting. In 114 patients in which the urethra averaged 22 F, he states the lesions were quite apparent. The smallest stricture noted by Stevens was a filiform.

In our first report we stated that none of our patients took above a number 18 F, and all had symptoms. Since writing the above, we have seen several cases in which the calibre was above No. 18 F, and were undoubtedly strictures. We believe that Bugbee is quite conservative and that Stevens is non-radial. Urethral lesions in the female are usually of the soft yielding variety, dense forms are rare. This undoubtedly accounts for so many of them being overlooked. More of this anon.

The following table of 86 cases represents pretty well the average calibre of the strictured urethra, met with in our cases:

Filiform stricture	1
No. 8 F	3
No. 12 F	10
No. 14 F	21
No. 16 F	17
No. 18 F	13
No. 20 F	11
No. 22 F	10
Total	86

Location

The lesion may involve the entire urethral canal or be situated in any one portion. The involvement of the anterior urethra particularly at the meatus, is decidedly more common. A series of cases collected by Wynne show 4 involving the entire urethra, 9 at the external meatus, 14 in the anterior third, 7 in the middle third and 4 in the posterior third. In our own series the locations were as follows:

External meatus	52
Anterior third	24
Middle third	3
Posterior third	7
Total	86

Diagnosis and Prognosis

Stricture of the female urethra as a definite entity must be recognized. Its effects are similar to those in the male, and one sees all forms of obstructive effects. Dilatation of the bladder, ureters and renal pelvis certainly occur.

The diagnosis should present no difficulty. Inspection, palpation, the use of the bulbous bougie or olive tip and the urethroscope, should leave no doubt. The prognosis depends largely on the etiologic factor. Soft infiltrations usually respond well to treatment. The hard infiltrations are always a source of doubt as are those in the male.

Treatment

The female urethra is a delicate and very sensitive organ, a fact which must be considered in its treatment. Treatment is essentially dilatation of which two forms may be considered, i. e., gradual and modified rapid. Other methods such as rapid dilatation and electrolysis have been mentioned but need not be considered. These procedures, it will be understood, apply to those cases in which complete obstruction does not exist. In the complete obstructive types internal and external urethrotomy as well as resection have been performed. If the stricture has been found to be very soft, as detected by the bulb, careful modified rapid dilation may be employed. This method necessitates the use of general or caudal anesthesia. Where modified rapid dila-

tation is employed it is not advisable to go beyond find points in one sitting. We once saw a prominent gynecologists use a pair of forceps in an attempted rapid dilatation with severe hemorrhage resulting. Personally we should never recommend any form of rapid dilatation. Gradual dilatation is always best and should begin with the largest sound or bougie that will pass the stricture. We then increase two numbers a week until we reach No. 26, which is about normal. It will, however, do no harm to go a little beyond this. After the above procedure a large dilator should be passed once a month for a year and at intervals even after this.

In dealing with the dense infiltrations one must be a little more cautious. The yielding of the tissues is much less and possibilities of bleeding and infection greater. We have always succeeded in dilating a hard stricture but it takes a longer time and they are liable to recur. Kelly has instructed this class of patients how to pass the sound so that they can do it home. We cannot recommend this procedure.

In cases of filiform types and complete obstruction it may be necessary to resort to operative procedure. In the former we have passed a filiform bougie and over this a Rand tunnelled knife with a five blade is threaded. The stricture is then incised on the floor. In the complete obstructive types retrograde catheterization through a cystotomy would seem to be the procedure of choice. This, however, is rarely a necessity. Hoehne has reported several cases in which this procedure was employed with success. Osgood has recommended vaginal urethrotomy.

In the treatment of strictures due to neoplasms, where the removal of the mass is impracticable, radium may be employed. We have recently had one case, in which we were apparently successful. Two weeks after leaving hospital patient died of an apoplexy, evidently a metastatic condition. Kelly and Burnam, while advising radium in some cases of urethral stricture, state that they have had no actual experience with it. There are a number of measures advocated for the treatment of this disease, which we have not mentioned, the reason being that they are obsolete. A long experience with urethral lesions has taught us to always try the simple remedies. When applied with gentleness they are usually productive of the best results.

Summary

1. Stricture of the urethra in women is common.
2. The principal cause is a gonococcus infection.
3. The pathology is quite similar to that of urethral stricture in the male.
4. Its most common location is at the external meatus.
5. The most common symptoms are frequency, urgency and dysuria.
6. The diagnosis may always be established by olivary tip or bulbous bougie.
7. Prognosis is good in soft infiltrations, while that of dense strictures are doubtful.
8. Treatment is by gentle dilatation—operative procedure to be avoided if possible.

30 East 40th Street.

Pyelonephritis and Its Relation to Nongonorrheal Urethritis

From the evidence presented by B. C. Corbus, Chicago (*Journal A. M. A.*, Dec. 24, 1927), it appears that many cases of nongonorrheal urethritis of bacterial origin occur as a result of infections carried from within out and not from without in. The results of divided urine cultures and pyelographic studies show that pyelonephritis as a result of focal infection, with poor kidney drainage, is often the cause of persistent nongonorrheal urethritis. Treatment should include removal of focal infections and the establishment of adequate kidney drainage.

Dicephalus

(*Concluded from page* 98)

bile duct two mms. proximal to its termination. The pancreas on the right lies behind the stomach. It is connected with the left pancreas. I can find no duct coming from it.

The urinary system is normal in structure. The bladder lies slightly to the left of the midline and the right ureter crosses its own vertebral column before entering the bladder cavity. The reproductive organs are normal in number and structure.

The Ductless Glands: The thyroids are normally placed.

The thymi. There is a thymus for each head. Each thymus is composed of two large well formed lobes. The two glands together cover the thoracic organs completely. They are adherent to the pericardium.

The spleen. There is only one spleen. This is slightly larger than normal. It is normally situated.

The adrenals. There is a normal adrenal for each kidney. In addition, in the midline there is a small mass of material resembling adrenal tissue.

The Nervous System: The cranial cavities were not opened.

There are two sympathetic trunks, two vagi, and two recurrent laryngeal nerves for each hand. I can find only one pair of phrenics. One phrenic arises from the third, fourth and fifth roots of the right cervical plexus of the right head and follows its usual course. The third, fourth and fifth roots of the cervical plexus on the left side of the left head form a left phrenic nerve.

The inner side of each neck seems to have no recognizable cervical plexus and, therefore, no phrenic nerve is formed.

In the pelvis no nerves are seen to spring from the inner side of each vertebral column, though on each lateral side they are normal in origin.

Anatomic Diagnosis: Dicephalus dibrachius dipus.

1621 Spruce Street.

Study of Two Hundred and Two Cases of Congenital Syphilis

In a study made by A. Benson Cannon, New York, (*Journal A. M. A.*, Aug. 27, 1927), of 202 cases of congenital syphilis representing 181 mothers, it was found that the more recent the infection in the mother the more frequently the children were affected and the severer the type of infection. Only 23 per cent of the mothers had received treatment before or during pregnancy. The greater number of these cases represented the first pregnancy. The average age at which symptoms developed was between the tenth and fifteenth years. Ninety-one per cent of the patients were normal mentally. Interstitial keratitis was the most frequent symptom occurring in 35 per cent of the cases. Dental defects were the most common physical sign. The Wasserman reaction and organic luetin tests were strongly to moderately positive in all except two cases. Spinal fluid tests were positive in 10.5 per cent. The plan of treatment was continuous. There were fourteen cases of syphilitic nephritis. All were fatal and all were studied at autopsy. There were four cases of meningitis, all of which were fatal. Three were examined at autopsy. Only six out of seventy patients have become serologically negative, and these after from four to six years of almost continuous treatment with arsphenamine, mercury, iodine and bismuth. Usually when treatment was begun in early infancy, the Wasserman reaction became negative after about four courses of arsphenamine and mercury and remained so. A relapse to a positive Wasserman reaction after the serum has once become negative was rare, having occurred in only four cases of the series. Although the symptoms of those suffering from neurosyphilis have either become less severe or have entirely disappeared under treatment, Cannon has not been able in any instance to obtain a negative spinal fluid. Congenital syphilis of the kidney was diagnosed during life in fourteen cases, and in each instance was confirmed by autopsy. Not including the four patients who had a relapse to a positive Wasserman reaction, Cannon obtained a negative result in 29 per cent of the cases.

Acute Subdeltoid Bursitis, Based on the Study of Thirty-Six Cases *

JACOB GROSSMAN, M.D.,
New York City.

This report is based upon the study of thirty-six cases, summarized as follows: Female, 21; male, 15: Youngest, 31 years of age; oldest, 64 years of age: Right shoulder involved, 20; left shoulder involved, 16: History of definite injury, 10, no history of injury, 21.

Amongst these possible occupational injury 19, divided as follows: Housewives, 12; tailor, 2; painter, 2; truckman, 1; designer, 1; peddler, 1.

Followed infection of tonsils, 1; retired, 1; followed hard work, 4: Calcium deposits, 23; no calcium deposits, 13.

Unaffected shoulder: negative, 32; calcium deposits, 4.

The object of reporting the following cases of acute subdeltoid bursitis is to emphasize the following points:

1.Subdeltoid bursitis is a frequent cause of shoulder disability.

2.The presence of a radiographic shadow in the vicinity of the bursa need not in the majority of instances influence the usual course of treatment and certainly in most cases does not demand operative interference.

3.Operation is indicated only:

a) To shorten the period of convalescence in those patients where time is an important factor, and

b) In chronic cases where the symptoms have not been relieved by conservative methods. The method of choice in these instances should be the removal of the entire bursa and not alone the calcareous deposit.

The chief clinical characteristics of this affection are pain in the shoulder and upper arm, together with impairment of function at the shoulder joint. Traumatism in one form or another is the usual cause of these symptoms. The most common injury producing them is a fall upon the shoulder or a violent twist or wrench to this articulation. These constitute the direct traumatic causes of subdeltoid bursitis. Next in importance are the traumatisms resulting from the habitual slight injuries connected with one's occupation. Most rare of all are infections of this bursa resulting from local action of a systemic toxin.

Codman has published a very careful anatomical study of the relations of this bursa to the structures about the shoulder joint and has called attention to the fact that in some cases there is a rupture of the tendon of the supra-spinatus muscle associated with injuries to this bursa. The bursa is situated immediately beneath the fibres of the deltoid muscle and directly above the fibrous capsule of the shoulder joint. In a normal condition it is thin-walled and adapts itself accurately to the different positions of the head of the bone as it changes with motion of the humerus and the scapula. It is said by Codman to be aided in this adaptability by the contracture of the muscle, the tendon of which he has found ruptured in traumatisms to this bursal sac and he attributes this liability to injury, in part, to the fact that rupture of this tendon does not permit the bursal walls to be pulled up out of harm's way when the humerus is elevated. Under normal conditions it must contain very little fluid. In size it perhaps encloses an area as large as the palm of the hand.

* Read at a meeting of the Bronx Surgical Society, December 28, 1927, and at a meeting of the Bronx County Medical Society February 15, 1928.

Pathology

The changes which take place in the walls of this sac consist of a thickening of the entire membrane in some cases, with a partial or complete obliteration of the cavity within. Sometimes villous enlargements have been seen in small areas of the sac so dense as to give a definite shadow in the X-ray, though there is no demonstrable deposit of lime salts associated with these villi. There may occasionally be a yellowish, finely granular cheesy material, having the appearance of the contents of a wen. Others show the presence of calcium carbonate and phosphate. The location of the calcium salts varies. It may be found in the wall of the bursa, inside the bursa, beneath the bursa or in the tendon of the supraspinatus or infraspinatus muscle.

Clinical Course and Physical Signs

In the cases brought on by direct violence the symptoms attributable to the bursal inflammation are necessarily somewhat masked at first by the immediate effects of the trauma. Occasionally, however, when the immediate effects are insignificant the true symptoms of the bursitis develop several days after the injury.

In the occupational cases the development of the symptoms is necessarily much more insidious. Periods of comparative freedom from symptoms alternate with periods of severe pain. A dull ache associated with stiffness of the shoulder are the early subjective signs in the majority of instances. Severe, knife-like pain is complained of by a number of patients and its distribution is over the front of the shoulder joint, radiating down to the insertion of the deltoid and even as far as the forearm and fingers. Very often the pain is more severe at night, interfering with the patient's sleep.

Restriction of motions at the shoulder is early noted, those first affected being abduction of the arm and inward rotation. At night it is almost impossible to assume a comfortable position because of the dragging back of the humerus when in the supine position or when lying upon the well side.

In the more chronic cases there may be more or less atrophy of the muscles about the shoulder, particularly the deltoid and the supra and infraspinati. There may be slight swelling localized over the bursa. Acute localized tenderness to pressure is a very constant symptom. Dawbarn's sign may be elicited in some instances.

Differential Diagnosis

1. Tuberculous Arthritis:

Tuberculous arthritis usually presents a history of many months or even years of disability. There is atrophy of the arm. Motion is limited in every direction. Finally, X-ray examination discloses destruction of bone.

2. Fracture of the Humerus:

The greater tuberosity or either neck of the humerus may be the site of the fracture. In these cases there is a definite history of an injury. Clinically the signs and symptoms present indicate the presence of a fracture. X-ray examination will confirm the diagnosis.

3. Axillary Abscess:

The examining finger applied to the axilla will detect a hot, tender area. Constitutional disturbance and fever are usually present. Deformation or tenderness over the bursa are not present.

4. Acromioclavicular Arthritis:

This condition usually shows local swelling and tenderness that render its recognition easy. X-ray will usually disclose evidence of arthritis.

5. Circumflex Paralysis:

Circumflex paralysis produces a loss of abduction, with

Case 1. Figure 1. Frieda B.—Left shoulder. 1.—At onset. Note larger deposit.

the absence of any pain and no loss of the shoulder motions.

6. Tenosynovitis of the Biceps Muscle:

This condition produces swelling that extends along the front of the upper part of the arm. There is a disturbance in the function of the biceps which is absent in bursitis.

7. Brachial Neuritis:

In this condition the pain is more general and accompanied by weakness or paralysis of muscles definitely limited to a certain nerve or group of nerves.

8. Tumors:

These when affecting the bones are not difficult to recognize, as the X-ray makes the diagnosis simple.

9. Periarthritis:

This term in the past has been a very convenient name for a large number of obscure conditions about the shoulder. Occasionally one sees a shoulder that follow-

Case 1. Figure 2. Shoulder when discharged. Note disappearance of Calcareous deposit.

ing exertion or injury is painful, generally sensitive with inconstant and irregular limitation of motion. Such a condition, all other causes being excluded, may be considered a periarthritis. Subdeltoid bursitis is a localized periarthritis.

Treatment

In the very acute stage, rest in whatever position the patient is most comfortable, with the application of local heat are the main features of treatment. Occasionally sedative drugs were necessary to assist in relieving the excruciating pain of which the patients complained. The drug which proved very efficient was allonal, one tablet every three hours until the pain was under control and then one twice a day was sufficient.

The best form of local heat is diathermy applied daily to the affected shoulder. In the cases reported diathermy not only relieved the patients of pain, but also caused a rapid absorption of the calcareous deposits which were present. In conjunction with diathermy the deep therapy lamp applied several times daily proved to be a very valuable adjunct.

Many of the patients would not maintain the arm in abduction during the period of immobilization, because this position aggravated the pain. Hence immobilization with the arm in adduction, using the side of the chest as a splint, was employed in our cases. It certainly proved to be the position of choice in these instances. The position was maintained by a modified Sayre dressing.

As soon as the pain subsided, which was from three days to a week after the onset, passive abduction was instituted. Passive movements were followed by active movements and these continued until the movements of the affected shoulder were free and painless.

Case Reports

Case 1: Frieda B., dressmaker, forty-two years of age.

First seen April fourth, 1923, when she gave a his-

Case 1. Figure 3. Normal function in shoulder when discharged.

tory of having had an attack of tonsilitis ten days prior to the onset of her shoulder symptoms. She had sustained an injury to this shoulder three years before, but she did not remember the nature of the damage that had been sustained at that time. However, the disability resulting from the former injury only persisted for a few days.

Three days after the onset of the tonsilitis, her left shoulder became painful and stiff. The pain was very much worse at night and was so severe that it interfered with sleep. Any attempt to move the arm actively or passively aggravated the pain. Disability was complete.

Examination:

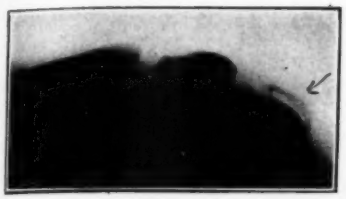
The patient appeared to be suffering from severe pain and hugged the left arm to her chest. The slightest attempt to raise it caused severe spasm of the shoulder muscles. The arm could be slightly abducted passively and with great pain. There was spasm of the shoulder muscles, increased by attempted abduction or internal rotation, active or passive.

Tenderness was excruciating and localized to the region of the subdeltoid bursa.

X-ray examination disclosed a large calcareous deposit in the region of the subdeltoid bursa.

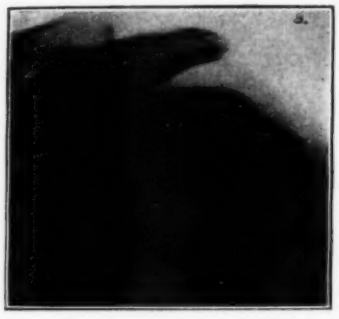
Treatment was carried out as previously described. Recovery was complete in three months.

Figure one is an X-ray picture of the deposit present at the onset. Figure two is an X-ray picture of the shoulder, with the calcareous deposit gone. Figure three shows normal abduction of the affected shoulder.



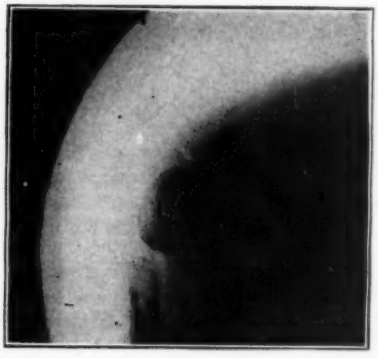
Case 2. Figure 4. Sam K.—At onset. Note calcareous deposit.

Case 2. Figure 5. At discharge. Note disappearance of deposit.



Case 2. Figure 6. Two years later. Calcareous deposit did not return.

Case 2. Figure 7. Normal function shoulder.



Case 3. Figure 8. Miss L. I.—At onset. Note small calcareous deposit.

Case 3. Figure 9. At discharge. Note disappearance of calcareous discharge.

Case 3. Figure 10. Normal function shoulder.

Case 4. Figure 11. Note deposit.

Case 2: Sam K., peddler, thirty-six years of age.

Four nights prior to his visit, the patient suddenly experienced severe pain in his left shoulder. Does not remember any definite injury, but reported that he carries boxes and bags of fruit and vegetables on that shoulder. He had not slept for four nights, as the pain was worse at night.

He hugged his left arm to his chest. There was excruciating tenderness over the left subdeltoid region. There was spasm of the shoulder muscles, increased by passive or active abduction or internal rotation.

X-ray examination disclosed a calcareous deposit in the region of the subdeltoid bursa.

Treatment as previously outlined was instituted. Recovery was complete within two weeks.

Figure four is an X-ray picture taken at the outset, showing the calcareous deposit in the region of the subdeltoid bursa. The X-ray picture at the time that the patient was discharged showed that the calcareous deposit had disappeared. (Figure five). Figure six shows normal abduction of the affected shoulder.

Case 3: Miss C. L., nurse.

A few weeks before her visit the patient fell and hurt her left shoulder. The pain and disability immediately following the injury were so mild that the patient soon forgot about it. A few days later the left shoulder became very painful and stiff. The pain was much worse at night.

Her suffering was so severe that her physician advised surgical interference, to which she readily agreed. With this object in view she consulted another surgeon who advised conservative treatment and referred the patient to me. At the time of her visit the following signs and symptoms were present.

The patient had not slept for several nights and she certainly looked tired and worn out. She hugged her right arm to her chest. There was distinct swelling over the region of the subdeltoid bursa. Tenderness over this region was excruciating. Movements of the shoulder were restricted and painful, especially so in abduction and inward rotation.

An X-ray picture taken at this time showed a very small calcareous deposit in the region of the subdeltoid bursa. The clinical picture was entirely out of proportion to the size of the deposit.

Conservative treatment as previously outlined was instituted and the patient made an uneventful recovery within three weeks.

Figure seven is an X-ray picture which demonstrates the calcareous deposit present at the onset. Figure eight is an X-ray picture taken at the time the patient was discharged, showing the disappearance of the deposit. Figure nine demonstrates normal abduction of the affected shoulder when the patient was discharged.

Case 4: Anna M., forty-three years of age, housewife.

A few days before her visit the patient tripped and fell, landing upon her outstretched right hand. Except for the shock of the fall the patient experienced very little pain or disability, until twenty-four hours after. She then noticed that her right shoulder was stiff and any attempt to move it was painful. These symptoms became gradually worse until complete disability and excruciating pain occurred. The pain was worse at night.

The patient hugged her right arm to her chest, and appeared to be suffering from acute pain. There was slight swelling in the subdeltoid region. Tenderness in this region was also present. Passive and active abduction and internal rotation were painful and markedly restricted. X-ray examination disclosed a calcareous deposit in the region of the right subdeltoid bursa (Figure 10). After four weeks of conservative treatment

Case 4. Figure 12. Note disappearance of deposit.

the patient made an uneventful recovery, with disappearance of the calcareous deposit (figure 11), and normal abduction and internal rotation of the right shoulder (figure 12).

Summary and Conclusions

1. Subdeltoid bursitis is a frequent cause of shoulder disability.
2. It is most often due to some injury, but a history of a definite trauma cannot be ascertained in all cases.
3. It is represented clinically by pain in the shoulder,

Case 4. Figure 13. Normal Function.

limitation of abduction and internal rotation and very often localized swelling and tenderness. Flexion, extension and abduction are free and painless.

4. The treatment consists mainly of protection during the acute painful stage and manipulation, careful repeated stretchings of the shoulder during the subacute stage. In conjunction with the foregoing, diathermy, deep therapy lamp and massage should be used from the very onset of the condition.

5. The presence of a radiographic shadow in the vicinity of the bursa need not in the majority of instances influence the usual course of conservative treatment and certainly in most cases does not demand operative interference.

6. Operative interference is indicated only:

a) To shorten the period of convalescence in those patients where time is an important factor, and

b) In chronic cases where the symptoms have not been relieved by conservative methods.

1018 E. 163d Street.

Getting Worse Trying to Get Better

It is the function of the physician, after studying the condition of a patient as exhaustively as is necessary if treatment is to be suitable, to consider not only indications which may exist, as to remedial measures and drugs, but to go one step further and to consider that in attempting to remove the source of an illness there is a possibility that the remedial agent, while primarily indicated, may nevertheless do harm.

Many years ago we published an editorial in the *Gazette* entitled "The Massacre of the Tonsil." It was based on a paper written by McKenzie of Baltimore, which bore this somewhat startling title. McKenzie's object was to express the belief that a large number of tonsils were removed unnecessarily, although he fully recognized that in many other instances their removal was most wise, even if complications might arise.

A host of illustrations might be brought forward to show how efforts to do good sometimes result in harm, because indications are not properly balanced with possibilities.

In a recent issue of the *Boston Medical and Surgical Journal*, Blumer published a paper entitled "The Tragedies of Tooth Extraction." In this paper he cites a number of cases in which the removal of a tooth for a root abscess, or the drainage of such an abscess, because it was feared that this focus of infection might produce widespread trouble, resulted in distressing or lethal injury. Thus he reports the case of a healthy young man of twenty-two years suffering from a root abscess. The tooth was pulled and two days later the patient suffered from a chill, fever, sweats, and vomiting, which symptoms persisted, and finally merged into somnolence, interrupted at times with delirium, gradual emaciation and death.

In another case, a lawyer of sixty-nine had a root abscess drained. A few days later he became indisposed, and had a marked chill and sweat, which symptoms recurred. The fever became septic in type. He gradually developed a cardiac murmur with petechiæ, the streptococcus hemolyticus was isolated from the blood, and increasing stupor was followed by coma and death.

In still another instance, a patient already suffering from cardiovascular-renal disease, submitted to extraction of several abcessed teeth. In this case vomiting and weakness immediately came on, followed by jaundice, increased liver dulness, restlessness, muscular twitching, stupor, and death in a convulsion.

In still another patient, who came to his end with somewhat similar symptoms after removal of teeth for pyorrhea, the autopsy revealed multiple focal necroses of the myocardium, central necrosis of the liver, and chronic diffuse nephritis. It is true that this patient was anything but a healthy man at the time the teeth were removed, but serious lesions in vital organs emphasize the fact that careful consideration should always be given to the possible sequelæ of even such minor surgical interference lest general infection ensue.

Indeed, Blumer states that there are a number of types of fatal infection which may result from the extraction of teeth: Direct extension of the local inflammatory process to the mediastinum; by metastasis to neighboring tissues, as in cases of meningitis and thrombosis of the cerebral sinuses; the induction of general septicemia, or acute septicemia with endocarditis; chronic septicemia with degenerative processes in vital organs; and finally septicopyemia with the formation of abscesses.

As Blumer well says, his brief article is not a plea to stop extracting teeth; it is rather for careful consideration of all the problems involved. In some instances it may be possible by such conservative measures as resection of infected roots to attain the effects desired.

It mu:t also be remembered that thousands of teeth are pulled without subsequent difficulty, but on the other hand that such sad sequences as we have quoted should make us "Stop, Look, and Listen" before giving offhand advice. This has been forcibly impressed upon us recently because, after extraction by a most skilful dentist of a septic root, a patient developed a phlegmon in the neck, which extended to the thorax, and developed thrombi in the great veins of the right upper thorax and arm. In a few days she died of profound septic intoxication. It seemed to be wise to remove the focus of infection in order to abort a beginning arthritis, but here again, by a sad twist of fate, in endeavoring to sure a sad result ensued.—(*Ther. Gaz.*)

Prevalence of Malaria Reduced in Canal Zone

The number of malaria cases last year in the Panama Canal Zone was the lowest in history.

Necessity of Complete Removal of Small and Apparently Innocent Lesions

D. PHILIP MACGUIRE, A.B., LL.B., M.D., F.A.C.S.

ASSISTANT PROFESSOR OF SURGERY, NEW YORK POST-GRADUATE HOSPITAL AND MEDICAL SCHOOL,*

New York City

Of the many articles that have appeared in the medical journals in the last few years, none have struck me so forcibly as the short article in the *Journal of the American Medical Association* of July 1, 1926, written by that eminent surgeon and pathologist, Joseph Colt Bloodgood of Johns Hopkins.

He states that in the surgical and pathological laboratory of the Johns Hopkins Hospital thirty-three per cent of all sarcomas came under observation as recurrent tumors and in seventy-five per cent of these the primary tumor was small, operable, and with the rarest exceptions, curable. But because of its small and apparently innocent character, it was nucleated or shelled out. These statistics are certainly startling and would seem that it should have a very pronounced effect on medical men and patients suffering with these small tumors throughout the country. We have noticed in our Clinic a tremendous increase of patients suffering from Benign Lesions, especially those of the breast, in the past five years. And at special times during the year after publications in the newspapers or after lectures on Carcinoma the increase is acute. Bloodgood's rule is this: Whenever any local lesion can be thoroughly and completely removed with a wide margin, that is, margin wide enough for any type of malignancy which is possible in a local lesion in the specific area, this operation should be done with or without the cautery. There never should be an exception. Then no matter what the section shows, there is no indication for further operation. If the local lesion is of sufficient extent to make a complete operation mutilating, then its character must be ascertained at once by frozen section and the indicated operation must follow at once. Better no operation at all than an incomplete operation, as a malignant growth in its earliest stages has no very definite symptoms. There is no diagnostician living who can tell when a malignant change in the cells of a benign tumor growth may have taken place. So if this apparently benign tumor is not completely removed, there will be local recurrence with great danger of metastasis, as the entire object of the operation will be lost and in addition the second tumor, the descendant of the first, will be potentially more malignant than its parent.

Two cases recently seen will illustrate these points: A school girl of sixteen, well developed for her age, complained of a small lump in her breast in the lower and outer quadrant. This mass, apparently the size of a plum, was freely movable and rounded in contour with no glandular enlargement, nor was it adherrent to any structure. Following is the pathological report:

Nature of specimen: Breast tissue.

Result of examination:

Gross: Specimen is an irregularly rounded nodula 38 x 33 x 25 mm. It is moderately firm and resilient. On section it is solid throughout, distinctly encapsulated by a layer of fibrous tissue about 2 mm. thick.

Microscopic: Sections show fairly uniform structure throughout. There is a fibroblastic stroma fairly rich in spindle shaped cells. Intermingled with these there are irregular gland spaces which are distended to a diameter of ½ to 1 mm. The gland spaces are lined by a single or double layer of columnar cells which are slightly irregular in shape. The connective tissue is of special interest. In the fibroblastic cells one finds several mitotic division figures and this tissue everywhere appears to be growing rather actively. There are scattered round cells and polynuclear leucocytes in it.

This specimen does not, therefore, represent the ordinary adeno-fibroma of a breast of young women. It is to be regarded as definitely malignant. This type of tumor is almost certain to recur locally but should not metastasize early. Upon its recurrence a more radical operation should be performed:

Diagnosis: Adeno-sarcoma of the breast.

(Signed) W. J. MACNEAL.

Fortunately in this case I made a wide incision without knowing that I was dealing with an adeno-sarcoma; and an examination of February 14, 1927, showed no metastasis.

The second case was in a student nurse, age 19, who had complained of a small lump on the back of her neck. This was removed and as far as I could ascertain no pathological examination was ever made. When I first saw her a larger tumor than the primary one had made its appearance, and instead of being movable it was attached to the deeper structures. Upon operation it was found that it was attached to the fifth cervical vertebra, and although it was removed very thoroughly, it terminated fatally in about four months. The importance of a wide incision and the extreme necessity for an examination of the tissue removed by a competent pathologist cannot be too strongly emphasized. It is always irritating to those who know their pathological work to find numerous incisions in the removed tissue made by the operating surgeon who often would be unable to differentiate between a polychrome methelyene blue and a mallory stain. These incisions are especially to be avoided in the neck of the gall bladder, and in the region near Gerlach's valve in the appendix. I could cite several cases of supposed dermoid and fibrous tissue tumors that showed malignancy on examination. One of the most satisfactory results of pathological examination are those cases of gumma where syphilis was never expected to be found as Wassermans had been negative.

So let us approach the removal of every tumor seriously and realize especially the responsibility of preserving the removed tissue and the examination by a competent pathologist.

28 East 72nd Street.

Vaccination Shields Dangerous

A warning against the use of any sort of vaccination shield or dressing, has been issued by the Surgeon General of the United States Public Health Service, Dr. Hugh S. Cumming, who recommends that no covering be applied to a vaccination against smallpox.

Medical economics—the science of making a living while satisfying the notions of socialists and social workers.—*Jour. A. M. A.*, March 3, 1928.

* Surgical service of Professor Chas. Gordon Heyd.

Constipation and Its Treatment

MARKS S. SHAINE, M.A., M.D.

ATTENDING GASTROENTEROLOGIST, BETH DAVID HOSPITAL AND VANDERBILT CLINIC; INSTRUCTOR IN MEDICINE COLLEGE OF PHYSICIANS AND SURGEONS, COLUMBIA UNIVERSITY; CONSULTING GASTROENTEROLOGIST, ROCKAWAY BEACH HOSPITAL,

New York City

The ill effects of neglected constipation are almost too numerous to mention. Directly or indirectly it may cause chronic colitis, appendicitis, disease of the gallbladder, hemorrhoids and fissure of the anus. It may produce a train of symptoms grouped under the term "auto-intoxication." This consists of headaches, dizziness, bad breath, coated tongue, lack of "pep," loss of appetite and consequent loss of weight and anemia. It is certain that high blood pressure is aggravated by constipation, and that many catarrhal conditions of the nose and nasal sinuses, many skin diseases (especially those marked by itching) some forms of conjunctivitis and tinnitus aurium (head noises) are due to sluggishness of the bowels. In women it may lead to disorders of the generative organs.

In constipation, more than in all other human diseases, poor treatment, wrong treatment and self-medication run riot. All bodily functions are performed by man without the aid of drugs save the function of moving the bowels. In severe illness, and for a brief time only, drugs may be used to aid circulation, respiration or urination. If the use of drugs in the aid of these functions is prolonged, grave consequences are certain to ensue. But because grave consequences follow more slowly and insidiously after treatment of constipation by drugs and appear only after a comparatively long time, many persons permit themselves to acquire the habit of using drugs and other non-physiological devices to obtain a movement of the bowels. But ultimately they pay, and pay heavily, the penalty for this vicious habit. "The mills of the gods grind slowly, but they grind exceeding small."

The human body is composed of a number of marvelously delicate organs which are very jealous of their functions. They will not for long bear the insult to their importance and will resent their abuse by drugs by refusing to respond to them.

The effects of the abuse of drugs in the treatment of constipation are as varied and as serious as the effects of the constipation itself.

In the first place, cathartics defeat their own purpose. While they do produce the immediate desired effects for a time, they produce a more severe constipation later on; so that recourse to them becomes more and more frequently necessary. One drug after another is tried and soon loses its effect, and more and more powerful drugs are required.

This produces a constant irritation in the gastrointestinal tract with subsequent inflammatory changes causing chronic colitis, hemorrhoids, fissure, appendicitis and gallbladder diseases.

Auto-intoxication is more apt to occur when the gastrointestinal tract is in an inflamed or diseased condition due to its abuse by drugs.

What then, is the proper treatment of chronic constipation? The answer is not easy, for the treatment varies in different cases and depends on the cause of the constipation. Most often costiveness is due to bad habits, to carelessness and neglect in attending to this important function. The habit should be formed in early childhood of moving the bowels at a definite time each day, preferably after breakfast. The call to stool should always be heeded promptly and never postponed.

Other frequent causes of constipation are improper food, insufficient water drinking, excess of tea and lack of fruits and vegetables in the diet. Too much food and also too little food may lead to constipation. Insufficient exercise, lack of fresh air, sedentary occupations and lack of sleep may be important factors.

If a sufferer from constipation corrects these faults in his diet and habits and still is unrelieved, he may add one or two heaping tablespoonfuls of bran or agar to his meals once or twice a day. This may be taken in his cereal, in soup, in applesauce or in milk or cream. A tablespoonful of mineral oil may be taken two or three times a day. If the oil is kept on ice and taken floating on a little ice water or in orange juice, the taste is hardly objectionable. The oil mixes with, and softens the stool but does not irritate the bowel and is the only medicine that can be taken with impunity for any length of time.

If all these measures, conscientiously carried out, fail to give the necessary relief, the patient should be subjected to a careful physical examination including the rectum, anus and lower bowel. An x-ray examination should be made to determine if there are any obstructions, kinks or strictures in the bowel. Thereafter, the patient should be entirely guided by the physician's advice.

210 West 70th Street.

Indications for Surgical Intervention in Pelvic Lesions of Infectious Origin

Arthur H. Curtis, Chicago (*Journal A. M. A.*, Oct. 8, 1927), urges that the treatment of chronic leukorrhea should not be directed solely to the uterine cervix. Skene's duct infections are another important source of these discharges. Establishment of thorough drainage is a factor of greatest importance in the cure of chronic endocervicitis. It appears difficult to invade the uterine cavity without introducing some bacteria. The clean uterus can be entered once almost with impunity, but repeated instrumentation of the pregnant organ is highly dangerous. Supravaginal hysterectomy, performed several days after diagnostic curettage, is an unclean surgical procedure. Operative intervention should be avoided in patients with acute inflammation of the tubes. Nor should surgery be employed, as a matter of routine, for eradication of more quiescent tubal infections. With reinfection prevented, gonorrheal invasion of the fallopian tubes and adjacent tissues tends to produce a self-limited disease. Operation should be reserved chiefly for the sequelae of infection. At the time of operation, a decision relative to the disposition of a doubtful ovary requires more careful consideration of the etiology of the pelvic infection. If of gonorrheal origin, preservation of the ovaries appears desirable unless they are rather badly crippled or the circulation is impaired. If one ovary must be sacrificed, it is inadvisable to resect a major portion of the remaining one. In the presence of a diseased ovary, with the indications for removal somewhat uncertain, less radical surgery appears indicated in gonorrheal disease than in streptococcic or tuberculous infection of equal severity.

Passing of Typhoid

The preliminary figures for the year 1927 indicate that when the record is complete the typhoid fever case rate for that year will probably be the lowest ever recorded in the United States.

Report of a Case of Low Cesarean Section in Prolonged Labor.

REUBEN CRONSON, M.D.

New York City

Mrs. R. C., 28 years old, para II was delivered five years previously by craniotomy of a full term baby after being in labor three days. The child was dead before craniotomy was performed.

She became pregnant again and went the full term. During her pregnancy she was kept under a strict dietary régime to limit the size of the child.

Labor began 12 m., June 17, 1927, and continued to 6 p. m., the following day. It became evident after thirty hours of labor that the dystocia was of a high degree and that the patient cannot give birth to a living child per vias naturales.

On account of the prolonged labor a low cesarean section was decided on. Immediately preceding the operation vagina and cervix were disinfected with tincture of iodine. As the patient was short and very fat the incision extended from the umbilicus to the symphysis to the left of the median line so as to gain plenty of room.

Care was exercised in opening the abdomen not to injure the bladder which is located high in the gravid. A transverse incision was made in the uterine peritoneum above and parallel to the vesico-uterine fold and the bladder stripped downward as in a hysterectomy for a distance of about four and a half inches. The upper part of the peritoneal incision was stripped upward for about three-quarters of an inch. In this manner a space of about five inches was gained exposing the cervix and lower part of the uterus denuded of peritoneum. While the bladder was retracted downward the uterus was incised in the median line with a scalpel cutting between two mouth toothed forceps. A living child weighting 5½ pounds was extracted with obstetrical forceps and the placenta was taken out manually. Bleeding in the incised uterus was well controlled by fenestrated sponge holders. At the beginning of the operation patient received ergotol by hypo and immediately preceding incision of the uterus a dose of pituitrin. The spill was taken care of with suction and large pads shutting off the cerdix and lower uterine body from the general peritoneal cavity.

Incision in the uterus was closed with three layers of sutures and the bladder sewn back in place with overlapping of the peritonum. The adbomen was closed in the usual way without drainage.

Immediately after the operation patient received by hypodermoclysis 800 cc. normal saline and 50 cc. glucose.

The day following the operation, June 19th, the temperature was 102.8 F. and gradually declined, becoming normal June 22nd. June 24th there was a temperature of 100.4 F., due to a stitch abscess, becoming normal June 26th.

On the first day postpartum bowels were moved. June 20th patient was nauseated and vomited which was relieved by stomach lavage. She was discharged June 29th in good condition.

Low cesarean section is somewhat more difficult than the classical operation, but is safer for the mother and is applicable to such cases in whom the classical operation would be hazardous.

505 West End Avenue.

Treatment of Uterine Cancer

Dr. Victor Bonney, in the London *Lancet*, writes on the treatment of uterine cancer as follows:

The results that I have obtained by operative treatment are so far superior to anything that in this country up to the present has been attained by irradiation, that I most strongly believe that whenever a growth is removable it should be removed. My experience of radium in the treatment of carcinoma of the cervix is now of long duration, as it has been used in quantity at the Middlesex Hospital for the last 17 years. The results obtained up to the last few years were most disappointing. In some cases a remarkable local disappearance of the growth occurred, and the patient became free of bleeding and discharge for many months or even a year or more; at the end of that time, however, the symptoms recurred, and the patient steadily went downhill and died. In other cases, the spread of the growth was very definitely checked, and the bleeding and discharge much lessened, though the growth remained grossly apparent to the examining finger. Such patients had radium applied at intervals over long periods, but, in spite of it, steadily lost ground, and, what was perhaps the more distressing feature, lost hope. Their lives were undoubtedly prolonged by the treatment, but the months or years gained could scarcely be called happy ones, beset as they were with alternating hope and fear, of which fear eventually predominated. In a few exceptional cases, a cure comparable to an operative cure—namely, freedom from any sign of the growth for over five years—was attained. Against these few complete successes and many partial successes had to be set an equally large number of patients in whom the radium stimulated the growth to increased activity, and materially shortened the lives of the patients by increasing their pain, bringing on foul discharge where none existed before, or producing fistulæ in the rectum or bladder. It must, however, be pointed out that all the patients of whom I am speaking were those in whom the growth was too advanced for operative removal; except in a few instances, radium has not been used in operable cases. Equally disappointing results have been recorded by many other writers.

Of recent years, however, much better results have been published by certain workers, chiefly on the continent and in America, and claims have been made to a percentage of cures nearly equal to the best of those claimed for surgery. The better results obtained are stated to be due to an improved technique in the using of radium, and this improved technique is now being used in England at various places, Middlesex Hospital included. It is too early to speak with confidence yet of the results which have been obtained by these new methods, but judging from cases that have come under my cognisance, I think that the results are better than they used to be. The point that concerns us at present, however, is whether radium should be used in preference to or as an alternative to operation in cases in which the growth is removable, and up to the present no figures published in this country justify such a change in policy. For cases too advanced for surgery, on the other hand, radium is the treatment of election, and superior in my opinion to deep X ray therapy. Even to-day with the improved technique the results obtained in these advanced cases are very unequal. In some great improvement is manifested, whilst in others the patients are made undoubtedly worse and their lives shortened. My experience of deep X ray therapy has been an unfortunate one, for I know of no case in which the growth permanently disappeared, and only a few in which material improvement was obtained. The drawback to X rays is that each application makes the patient so ill. X rays and radium may be used in combination.

Speaking generally of the results likely to be obtained by irradiation, I think it may be said that whilst they are better than they used to be, too much can easily be hoped from them at the present time. A perusal of the literature bearing on the subject shows a discordance of claims as

marked in the case of individual workers as are the results in individual patients, and leaves an unbiased observer in a puzzled frame of mind.

In the case of carcinoma of the body of the uterus, the only hope of cure lies in a radical operation. It is not necessary in this disease to subject the patient to an operation as severe as Wertheim's operation, because the route of spread of corporeal cancer is different from that of cervical disease, and occurs along tracts more easily compassed by the surgeon's knife. The common path of lymphatic permeation is along the lymphatics accompanying the ovarian vessels up to the glands along the upper half of the abdominal aorta. There is no tendency until very late for the growth to invade the lymphatics accompanying the uterine arteries to the side wall of the pelvis, and therefore there is no need for that wide excision of the paravaginal and paracervical tissue which is necessary in cervical cancer. Most patients with corporeal cancer actually die of metastatic deposits due to the growth penetrating the uterine wall, and entering into the peritoneal cavity and this often occurs long before the cancer cells have reached the aortic glands. The operation indicated is a total hysterectomy, taking with the uterus the ovaries, tubes, and upper part of the broad ligaments as far outwards along the ovariopelvic ligaments as possible. This is not a severe procedure in most cases, and the operative mortality is not a high one (about 5 per cent.), and would be lower still if it were not that many of the patients are elderly women, enfeebled by long-continued bleeding and foul discharge. As regards the chances of permanent cure, these are at least as good as those yielded by Wertheim's operation—that is to say, that about half the patients recovering from the operation are permanently cured.

Radium is practically useless in corporeal cancer. No doubt there are certain cases where the growth is quite superficial on the endometrium, in which radium introduced into the uterus would destroy permanently all the malignant cells, but we have no means of ascertaining the depth to which the growth has spread in the uterine wall, short of removing the uterus and examining it afterwards, and hence to use radium in preference to an operation, even where the growth is apparently a very recent development, would be wholly unjustifiable. Moreover, it is in these early growths that surgery can be certainly relied upon to give a permanent cure. Deep X ray therapy I have employed and seen employed in many cases, but I have not seen one in which the patient was cured, and very few in which duration of the patient's life appeared to be lengthened by its use. Whether it should be used as a means of comforting the patient and the patient's friends with the idea that something can be done is a moot point, for the treatment makes the patient feel very ill, and unless carried out in hospital is expensive.

Traction and Suspension

Some of the advantages of the treatment of fractures by traction and suspension mentioned by Joseph A. Blake, New York (*Journal A. M. A.*, Dec. 3, 1927), are that: 1. A preliminary reduction is not necessary, reduction being accomplished by the treatment itself. 2. No anesthetic is required because traction produces immobilization thus relieving pain, except in exceptional cases where very strong tractive effort is made. In these cases, the pain is not so severe but that it can be controlled by the administration of morphine. 3. The limb is not surrounded by any retentive apparatus; consequently, it is open for inspection or massage, and for dressing of wounds if they are present. 4. Traction combined with suspension, as a rule, permits motion in the neighboring articulations, so that these joints preserve their function; therefore the patient is able to use the limb normally as soon as consolidation is accomplished. 5. Owing to the preservation of the circulation and nutrition of the limb, repair is hastened. In applying traction and suspension, a suspension frame and two splints are necessary, the one for the lower limb being a Thomas splint with the Pearson hinged leg piece. For fractures of the humerus a splint is not used, slings being sufficient for suspension. For fractures of the forearm, the Murray modification of the Thomas arm splint will be found sufficient. The chief field for the use of traction and suspension is in the treatment of fractures of the long bones of the limbs, especially those of the humerus, the femur and both bones of the leg. It may also be applied to fractures of both bones of the arm, particularly compound fractures or gunshot fractures, which require frequent dressings, and may be used to advantage in the treatment of fractures of the phalanges of the fingers, and even fractures of the clavicle. A tractive effort sufficient to overcome longitudinal displacement in the first three to four hours should be applied. The tractive effort then should be reduced to that just sufficient to keep the fragments in position. The usual mistake is to apply an insufficient amount of traction, wait a day or two before observing its effect, and then find that reduction has not been accomplished, then to add more and wait another day or two for observation, only to find that still more may have to be added. Traction is applied in two ways: as skin traction, by means of adhesive bands or strips applied to the skin, and as skeletal traction, by traction applied directly to the bones. In applying skin traction, the mole skin adhesive is excellent, but bands of muslin or gauze may be glued on by means of Sinclair or Heussler's glue, or still better by a commercial glue, known as ambroid, which does not irritate or slip. Ambroid is sold in cans of various sizes, so that a fresh can may be used for each application. Skeletal traction may be applied by tongs or by pins transfixing the bone. The best manner of applying traction is by means of weights and pulleys, especially when suspension is employed with traction. When the traction is used in this way the pull is constant, no matter how the patient or his limb is moved. The most satisfactory way that Blake has found for applying both traction and counteraction is as follows: One end of the traction cord is attached to the traction straps or tongs. The cord then passes over a pulley on the suspension frame to a weight. For countertraction a cord is attached to the ring of the splint, or the splint near the ring, and passes over a pulley on the head end of the suspension frame to another weight. This method is very satisfactory for the lower limb and keeps the splint well in place. A modification of this method, by which the weight for traction also provides countertraction, is to attach one end of the traction cord to the end of the splint and then pass the cord through a pulley on the spreader on the traction straps, from which it runs back through a pulley on the end of the splint to a weight which then hangs from the end of the splint. Or, instead of going through a pulley fastened to the end of the splint, it may be passed through a pulley on the suspension frame. In the first case, the countertractive effort is about three-fourths of the tractive effort; in the second, it is one-half the tractive effort. In both cases, the tractive effort is twice the weight of the weight. Skeletal traction is more efficient than skin traction, and usually requires about half the pull to accomplish the same results. In practice, particularly in muscular patients, it is found impossible to reduce some fractures by skin traction, but practically all can be reduced by skeletal traction. Furthermore, skeletal traction may be applied to the distal fragment itself, thus permitting active as well as passive motions in the articulation immediately distal to the fracture. In some fractures reduction cannot be accomplished by traction alone, as it tends only to bring the fragments into a straight line. In such cases, suspension is used to produce the angulation necessary to perfect reduction. In some fractures overriding must first be reduced before the angular deformity can be reduced. In case satisfactory reduction cannot be achieved by traction in a fairly short time, say a week, open reduction is indicated.

Fracture of Shaft of Femur

The slogan offered by Kellogg Speed, Chicago (*Journal A. M. A.*, Dec. 3, 1927), is: "Splint 'em where they lie." The permanent treatment of fracture of the shaft of the femur is outlined as follows.: A. Nonoperative treatment. General anesthesia is required whenever there are any attempts at manual reduction or when splinting causes pain. 1. Reduction and splinting, either by plaster of paris or other types of splints. Reduction may be performed by flexion of the thigh with traction, locking the fractured surfaces together and holding them locked in contact while the leg is straightened out. This may be performed while the patient lies on a fracture table to make the subsequent application of plaster of paris easy. 2. Reduction, followed by placing the limb in continuous traction applied: (*a*) To the skin, as Buck's extension by adhesive tape or guaze dipped in glue. (*b*) To the bone, as skeletal traction by means of the Steinmann nail or ice-tongs inserted into the condyles of the femur or the calcaneus. Most continuous traction is augmented by suspending the limb to an overhead frame of any useful type. Suspension permits the use of the patient's torso as a counter weight and lightens the burden of nursing care. Both these methods are then subjected within a few hours to roentgen-ray control for position of the fragments viewed in two planes—anteroposterior and lateral. B. Operative treatment. General anesthesia is required. 1. Exposure of the fracture with simple replacement and locking together of fragments, followed by the application of an external splint of plaster of paris, metal or wood, or by continuous traction to the skin or bone. 2. Fixation of fragments by the use of internal splints, which may be metal, as plates and screws, or bands or absorbable material, as bone plates or grafts of any description or ivory plates, pins or screws.

Medical Times

THE JOURNAL OF THE AMERICAN MEDICAL PROFESSION

A MONTHLY RECORD
OF
Medicine, Surgery and the Collateral Sciences
ESTABLISHED IN 1872

EDITED BY
ARTHUR C. JACOBSON, M.D.

Contributions.—EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this publication.

When authors furnish drawings or photographs, the publishers will have half tones and line cuts made without expense to the writers.

SUBSCRIPTION RATES
(STRICTLY IN ADVANCE)

UNITED STATES (Including Alaska, Cuba, Mexico, Porto Rico, Hawaiian and Philippine Islands)	$3.00 per year
CANADA	$3.25 per year
FOREIGN COUNTRIES IN POSTAL UNION	$3.50 per year
SINGLE COPIES, 25 CENTS	

Definite written orders for THE MEDICAL TIMES are required from all subscribers, to whom the journal is thereafter regularly forwarded.

Notify publisher promptly of change of address or if paper is not received regularly.

Remittances for subscriptions will not be acknowledged, but dating on the wrapper will be changed on the first issue possible after receipt of same.

All communications should be addressed to and all checks made payable to the publishers.

MEDICAL TIMES CO.
ROMAINE PIERSON, *President*
ARTHUR C. JACOBSON, *Treasurer*
REGINALD E. DYER, *Secretary*

95 Nassau Street - - - New York
Cable Address: Ropierson, New York

NEW YORK, MAY, 1928

Functional Recuperation of Paralytics

Dr. Gabriel Bidou, of Paris, has been doing some remarkable work on the functional recuperation of paralytics. Recently, Dr. Martinez de Hoz equipped a special hospital (Sainte-Isabelle) for Dr. Bidou to carry on his researches. Incidentally, it is one of the most beautiful and best equipped hospitals in the world.

For years Dr. Bidou has been working on this subject and the results are truly remarkable. In his hospital the chief technician himself has been enabled, by means of springs which replace defective muscles, not only to walk about and work at machines, but actually to drive about Paris in his own automobile. Dr. Bidou has in his hospital a girl working in the kitchen who is completely paralyzed below the chest and was bed-ridden for years. By means of Bidou's technic she is now able to work each day and walks about Paris unassisted except by springs which replace the muscles.

Dr. Bidou was at one time head of the Department of Functional Recuperation at the Hôpital de la Pitie, under Babinski. Babinski has said that Bidou is "the most ingenious man in the world in his line of work." At the moment, Bidou has a clinic at the old Salpêtrière Hospital in Paris.

The man's work is unique and probably without comparison.

The "Failure" of the Fittest

In a book shortly to be published Professor Walter B. Pitkin, of Columbia University, elaborates the thesis that there are not enough posts for the best brains and that many of our fittest are destined to fail, if gauged by the standards of a very practical world.

Education, it seems, is likely to ruin our youth when they take it too seriously. When education actually "takes," it appears, our youth fail to take any interest in workaday matters and lose out vocationally.

As Professor Pitkin works it out, there are about 600,000 best minds (as gauged by intelligence tests) in the United States, but fewer than 200,000 jobs worthy of them. Therefore at least 400,000 are bound to be relative failures when judged, as we said before, by prevailing criteria. We therefore have what Professor Pitkin calls "the failure of the fittest."

Professor Pitkin thinks that the wise youth of the highest group will endeavor more and more to function in bivalent fashion; that is, they will accept commonplace jobs when they cannot get places commensurate with their abilities, and pursue their cultural aims just the same, as did John Stuart Mill, who worked as a clerk in the India Office while revolutionizing philosophic and economic thought. The example of Charles Lamb also comes to mind.

It seems to the present writer that the vision of Dr. Rufus Cole of the Rockefeller Institute points out one of the ways in which this maladjusted superior class will be absorbed in the near future. We already have, as he points out, institutions in which medical science is being pursued *as such*, and not as necessarily a means to practical ends, and it is his belief that, more and more, universities will (like Chicago University in particular) provide means for the pursuit of medical science in a "cultural" way. The expectation is that practical medicine will benefit, but that will not be the immediate objective. The men and women who will devote their lives to research, experiment and the study (not cure) of disease in this fashion will not necessarily be physicians, and certainly will not practise in our present sense, though hospital patients will be "observed" by them. Dr. Cole points out that the greatest advances in anatomy and physiology in recent years have occurred where these subjects have been free from medical school restrictions. In this connection it may be well to remind the reader that one of the greatest of the early anatomists was Leonardo da Vinci—an artist, not a physician.

Now in the old Athenian days the man who attempted to develop the best minds among the city's youth was made to drink hemlock. Socrates "corrupted" the youth of Athens. That is to say, he unfitted them for practical life.

But to-day our research institutes are serving the purposes of the industrial world. The research men and women in medicine are also helping to conquer infectious disease when it interferes with capitalist expansion and control.

Such endowed research work should provide many of Professor Pitkin's best minds with economic resources for a while, at the same time that they achieve their real intellectual destiny.

What is their intellectual destiny?

We venture to suggest that medicine, at the top, is returning to its original sacerdotalism. It is as a kind of priesthood that the entire modern research group is functioning. This neo-sacerdotalism in pure science, including medicine, is to-day supplanting religious allegiances in the mind of the modern man, to whom theology is totally meaningless and science most meaningful. If he is "religious" it is of science that he makes a religion. His "spiritual" life does not relate to pastors but to Pasteurs, not to ritual but to radium.

One may picture an analogy between the best minds

of the early Christian centuries, religiously complaisant, and the cardinals and monsignori of this new scientific priesthood, who are now complaisant beneficiaries of the capitalistic system. So long as these medical archbishops and prebendaries render fealty to their gods, the Crœsuses who feed them, all will be serene. But by the very terms of their education, as Pitkin has shown, the best minds are destined ultimately to "corrupt the youth" of any Athens that may harbor them.

Pass down the centuries when the Church loomed so large in the affairs of men and recall the inevitable heresies of the best minds. Recall the maladjusted Roger Bacon and the long line of scholars whose education, after all, "took" dangerously, despite feigned servilities.

What great heresy, then, may be envisaged as occurring after a century or so of our boasted neo-sacerdotalism in medicine?

Why, forsooth, there will arise a Doctor Luther who will denounce the sale of indulgences in the form of fellowships and proclaim a war for the restoration of medicine to its erstwhile holy estate and prerogative—the cure of disease!

We have lived in an age that has been obsessed with the idea of curing disease, both as a duty and an ideal. It is the practitioner who adjusts best to the requirements of the times. But we are faced by a new age, in which the *cure* of disease will be an incidental and not a paramount concern (which will make for commercialism on the one hand and snobbery and dilettanteism on the other) and in which the *study* of disease will be the supreme aim. The only hope is that out of this new age, the age of neo-sacerdotalism, will re-emerge a chastened profession.

The moral is, continue to make education "take." We must continue to prepare our Roger Bacons, out of touch with the world of Babbittry and bourgeois religion, the fulfilment of whose intellectual destiny is the only thing that shall insure the world against ever-threatening death.

These be thy gods, O Israel! It is the Bacons in every age who give us life.

Opening the Hospitals

We have said more or less in these columns about the exclusion of many practitioners from organic affiliation with the hospital system at some point. There has been submitted to the editor a supplementary discussion, running about as follows:

> There is a group of physicians and surgeons who, while they are affiliated at some point, are excluded at all other points. That is to say, a man may be a member of the attending staff of some hospital, but that confers no privileges upon him at any other hospital. Such a man is no better off at hospitals other than his own than is the man whose exclusion from all hospitals is complete. This farcical situation betrays very clearly the falsity of the position of those defenders of the closed hospital who insist that proven fitness is the chief thing they are concerned about. The more the closed hospital situation is looked into the more discreditable it would appear to be, since each ensconced group not only excludes the unattached members of the profession, but also all members of other hospital groups. It is the entire profession, however qualified, that the dog-in-the-manger group snarls and snaps at. Some semblance of honest motives would enter into this matter if hospital men were to be permitted to attend their patients in hospitals other than their own when attendance therein is desirable. How can those completely excluded expect a square deal when a decent reciprocity among the rival groups is not desired?

It seems to the editor that some fallacies are concealed in the foregoing paragraph. For one thing we must distinguish between public and private hospitals. In the case of a private hospital its own staff members usually suffice to keep it and themselves busy and even a courtesy staff is a potential and sometimes an actual nuisance. Imagine the effect of a further letting down of the bars! There can be no serious question as to the right of a private hospital to conduct its affairs in a manner most likely to benefit its patients and permit sound administration.

What, then, is the solution of a problem that must be solved? A wise counsellor suggests that our public hospitals establish segregated private room service, in the interest of all legally qualified and *legally responsible* practitioners.

One good result that would flow from such an arrangement would be a *rapprochement* between the newly privileged practitioners of a city and the staffs of the public hospitals, the desirability of which from several standpoints seems obvious. It should not be necessary to discuss the implications too closely.

Miscellany

The Doctor as Artist

The doctor is at once artist and scientist.

The old doctor was more artist than scientist.

The new doctor is sometimes more scientist than artist.

No other profession makes quite so many demands upon a man in the way of:

Richness of personality.

Breadth of intellectual interests.

Catholicity of sympathy.

Expertness in the technique of human relationships.

The great doctor must have the severity of mind of the scientist, for only so can he treat the disease intelligently.

The great doctor must have the sensitiveness of spirit of the artist, for only so can he treat the patient intelligently.

The old family physician, who came up through the apprenticeship of sick room and night rides into the back country, may have been inexpert in handling test tubes, but he was often adept in handling patients.

The advance of the scientific study of disease has given us doctors who are better scientists, but the call remains for doctors who are artists in the handling of the human being, in whose body the disease has become an unwelcome tenant.

Aside from the demand for scientific knowledge of disease that the medical profession makes on the doctor, there are other demands that might well discourage any man from entering practice.

The great doctor must know almost as much about the social order as the sociologist.

This is true because the varied forces—political, social, economic, industrial, educational, religious—that march across a nation, making its mind or marring its spirit, register their effects in the lives of the doctor's patients.

The more the doctor knows about these forces that make the atmosphere in which men's minds and bodies live, the more intelligently can he trace effects to their causes, and the more wisely can he counsel his patients.

The great doctor must know almost as much about the mind as the psychologist.

This is true because even the most materialistic scientist admits that there is a subtle relationship between mind and body that the doctor of the body dare not overlook, for when he does overlook this relationship, a thousand quacks rush in to capitalize his failure.

The great doctor must know as much about the subtle art of counseling as the priest.

It is in answering these demands that the doctor becomes artist as well as scientist.—*Evening World.*

AMERICAN MEDICAL EDITORS' ASSOCIATION

Present Activities and Past History

With the death of the last President, Dr. Henry O. Marcy, the American Medical Editors' Association became inactive and remained so for five years. At the time of Dr. Marcy's death, one hundred and seventeen editors were on the roster.

Early in January, 1928, the present President, Dr. H. Lyons Hunt, called a meeting of a few of the New York editors to discuss the advisability of reviving the Association. The vote of those present was unanimous that this should be done.

That a need was felt for the Organization, can best be demonstrated by the fact that not only practically all members of the old Association came in, but over one hundred new members made application, so that today the American Medical Editors' Association is stronger and more powerful than it has been in its entire history.

As the organization swung into power, numerous meetings were held, officers elected and committees appointed to study and promulgate a tentative platform representative of the American Medical Editors' Association. Just how the entire Association will stand on these subjects, will largely depend on the information gleaned on each by the committees appointed.

That the Association is functioning with enormous activity, is shown by the fact that committees have been appointed to study and advocate a stand for the Association on the following subjects "Medical Journal Endowment Fund." (This is a rather new idea but there seems no reason why medical schools and hospitals should receive endowments while medical journals and those who run them, often at considerable personal sacrifice, should not look to share in a central endowment fund. Certainly the medical journals constitute one of the greatest forms of medical instruction and teaching in the country and through the profession are of untold value to the health of the nation.)

Committees have been formed to study ways and means of "Standardizing Medical Education" and "Standardizing Medical Licensing Examinations." "Bringing About International Medical Reciprocity." (Four committees, one in Canada, one in the States, one in England and one in France have already been appointed to study this subject.)

Committees to study "Workman's Compensation," "Pay Clinics," "Commercial Laboratories," "Open Hospitals," "Medical Compensation," "Drug Store Prescribing," "Pharmacy and Therapeutic Products," "Electrothehrapeutic Apparatus," "Prohibition."

Committees on "Legislation,' "Adverttising," "Publicity," "Policy," "Public Health," "Medical Economics," and so on, all studying certain questions and working out solutions for the problems involved, for the advancement and elevation of the medical profession and of medical journalism.

The officers of the American Medical Editors' Association are working with might and main for the benefit of its members and deserve their full support through the Journals they edit in advocating the policies the Association stands for.

PAST HISTORY

In 1869, the editors of medical journals in the United States, desiring to cultivate professional courtesies, to facilitate the conduct and general management of their journals, to promote their interests, their usefulness, and make them a still greater power for professional and popular good, and especially to advance the interests of medicine, united together and organized the "American Medical Editors' Association."

The idea originated with Dr. Theophilus Parvin, who at that time was editor of the *Western Journal of Medicine.* The first meeting was held May 6, 1869, at which time a preamble and articles of association were presented. At this first meeting, Dr. N. S. Davis, editor of the *Chicago Medical Examiner* and the father of the American Medical Association, was elected President.

The annual meeting for 1870 was held at Washington, D. C., at which time Dr. Horatio R. Storer, editor of the *Journal of the Gynecological Society* was elected President, for 1870-1871.

The meetings for the years 1870-1871 were devoted to Committee Reports, et cetera, with the exception of the adoption of a resolution introduced by Dr. N. S. Davis to the effect that "The social, educational and scientific interests of the profession would be greatly promoted by a more complete organization in every state and district in our country, such organization being calculated to not only elicit but diffuse knowledge, and also to afford the most efficient means of promoting concerted action on all important questions of medical education and progress."

For the years 1871-1872, Dr. B. F. Dawson, editor of the *American Journal of Obstetrics,* was President, and under his administration a resolution was introduced offering an annual prize of $100 for the best essay on some subject to be decided upon at each annual meeting, the competition to be open to all members of the Society."

Dr. Theophilus Parvin, editor of the *Western Journal of Medicine* and the originator of this Society, was elected President to serve during 1872-1873. Dr. W. K. Bowling, editor of the *Nashville Journal of Medicine,* served as President 1873-1874. 1874-1875 found Dr. W. S. Edgar, editor of the *St. Louis Medical and Surgical Journal* serving as President. He was succeeded in 1875-1876 by Dr. A. M. Bell editor of *The Sanitarian.* This meeting was devoted exclusively to the reading of papers advising a higher standard of requirements for admission to the profession of medicine the outcome of which was a resolution advocating and advising a three years' course in medicine, and indorsing a preliminary entrance examination for students.

1876-1877 Dr. Horatio C. Wood, editor of THE MEDICAL TIMES, was chosen President. He was followed in 1877-1878 by Dr. J. C. Gray of Utica, N. Y., who presented at his presidential address, a paper upon "Lunacy Laws" endorsing and advocating a change of the statutes governing the management of the insane by our public institutions. As the result of the agitation created by this address many changes were made in the laws of various states in accordance with the suggestions embodied in his paper.

Dr. William Brodie, editor of *New Preparations,* presided as President in 1878-1879, at which time he presented a paper upon "Duty, Scope and Destiny of American Medical Journals," and it is to be regretted that the archives of our Society do not contain a copy of his address, for it would be interesting to know how well he prognosticated the condition existing today, as well as how we have met his ideals of duty and scope. At this meeting a resolution was passed as follows: "We condemn the advertising of nostrums, patented and copyrighted articles in our journals."

In 1879-1880, Dr. S. T. Powell, editor of the *Southern Medical Record,* served as President. For a number of years following this meeting, the minutes of each session are so incomplete, that no facts of interest are obtainable, however, from a few fragmentary scraps in the possession of the Society, we judge the social feature of the Association was paramount.

The records show that Dr. I. N. Love, editor of *The Medical Mirror,* served as President in 1890-1891. Dr. F. L. Sim, editor of *The Memphis Medical Monthly,* 1891-1892. Dr. Frank Woodbury, editor of *The Boston Medical and Surgical Journal,* 1892-1893. Dr. J. C. Culbertson, editor of *The Lancet-Clinic,* 1893-1894. Dr. C. H. Hughes, editor of *The Alienist and Neurologist,* in 1894-1895. Dr. John B. Hamilton, editor of *The Journal of the American Medical Association,* 1895-1896. Dr. Geo. M. Gould, editor of *Medical News,* in 1896-1897. Dr. Hobart A. Hare, editor of *The Therapeutic Gazette,* 1897 and 1898. Dr. Thomas H. Hawkins, editor of *The Denver Medical Times,* 1899-1900. Dr. Alexander Stone, editor of *Northwestern Lancet,* 1900-1901.

It was not until the meeting of 1901, under the presidency of Dr. Alexander J. Stone, that the Society took on any semblance of a regularly prepared program of papers presented.

At the next meeting, Dr. Winslow Anderson, editor of *The Pacific Medical Journal,* was chosen President for 1901-1902. From 1902 until 1907 the history of our Association is within the memory of us all. Through untiring energy and hearty co-operation of Dr. C. E. de M. Sajous (Sajous Encyclopedia), President for 1902-1903; Dr. H. N. Mover, editor of *Medicine,* President 1903-1904. Dr. Henry Waldo Coe, editor of *The Medical Sentinel,* President 1904-1905. Dr. James Evelyn Pilcher, editor of *Journal Association of Military Surgeons,* President 1905-1906, and Dr. C. F. Taylor, editor of *The Medical World,* President 1906-1907, the membership in the Association was increased from forty-two names to 193 editors, representing 122 medical journals, the best of all the medical journals in both the United States and Canada.

Among the other well-known medical men who devoted themselves to the interests of the Association and the ideals it stood for, serving in the Presidential chair of the Society, were Dr. T. D. Crothers, editor of *The Quarterly Journal of Inebriety,* 1907-1908. Dr. W. A. Young, editor of *Canadian Journal of Medicine and Surgery,* 1908-1909. Dr. J. MacDonald, editor of *American Journal of Surgery,* 1909-1910. Dr. Walter Wyman, 1910-1911. Dr. Thomas L. Stedman, editor of *The Medical Record,* 1911-1912. Dr. E. A. Vander Veer, editor of *Albany Medical Annals,* 1912-1913. Dr. H. Edwin Lewis, editor of *American Medicine,* 1913-1914. Dr. Edward C. Register, editor of *Charlotte Medical Journal,* 1914-1915. Dr. George M. Piersol, editor of *American Journal Medical Sciences,* 1915-1916. Dr. George W. Kosmak, editor *American Journal of Obstetrics,* 1917-1918. Dr. Seale Harris, editor *Southern Medical Journal,* 1918-1919. Dr. H. S. Baketel, editor MEDICAL TIMES, 1919-1920. Dr. Frank C. Lewis, *International Journal of Medicine and Surgery,* 1920-

1921. Dr. Henry O. Marcy, editor *Annals of Anatomy and Surgery*, 1922-1923.

The American Medical Editors' Association took an initiative part in shaping the policy of the medical profession as an organized body and its influence for the elevation of medical standards. The effort to elevate the standard of preliminary education for those desiring to take up the study of medicine. The necessity for a comprehensive list of the names of regular practitioners, with their schools and date of graduation. The state and district organization. Agitation for a three years' course at medical colleges and a preliminary entrance examination for students. Changes in our lunacy laws regarding the handling of the inmates of our public institutions. Condemnation of nostrums and patent-medicine advertising.

The American Medical Editors' Association was the source from which many reforms for the advancement and betterment of the medical profession sprang, as well as ideas some of which did not take concrete form until nearly forty years after their promulgation.

The Physician's Library

Scientific Principles of Functional Recuperation of Paralytics. By Dr. Gabriel Bidou. Paris, 1927. Pages 145.

This recent publication by Dr. Gabriel Bidou of Paris represents years of scientific research on the functional recuperation of paralytics. The author explains in detail the mechanics of this work and it is a highly scientific presentation. He deals with his methods of recuperation, his ingenious apparatus for measuring the muscular deficiencies, and the evaluation of the graphic methods used in his technic. Details are given of the actual apparatus used for functional recuperation. The photographs are beautifully reproduced and show in detail how Dr. Bidou's methods are applied in actual practice. It is hoped that this book will be translated into English. Dr. Bidou is the originator of this technic which has enabled hundreds of paralytics to walk again.

Aluminum Compounds In Food. By Ernest Ellsworth Smith, Ph.D., M.D. Paul B. Hoeber, Inc., New York. 1928. Price $7.

The author's preface states that this is the first wholesale attempt to collect the scattered literature of this subject which takes cognizance of aluminum cooking vessels, natural and sophisticated aluminum content of foods, the use of alum to render food more attractive or palatable and lastly the use of baking powders containing alum. The latter topic occupies by far the greater amount of space in the book, including a digest of the "Report of the Referee Board of Scientific Experts on the Influence of Aluminum Compounds on the Nutrition and Health of Man," which board was created by executive order of President Roosevelt in February, 1908, the digest being followed by an extensive summary of litigations relative to baking powders containing alum. The author's personal researches into this subject, which cover the period 1888-1902, naturally are given prominence. Incidentally the physiological and possible toxic action of aluminum compounds on all orders of living beings is described in detail. It is not difficult to sum up the contents of this volume, for the author shows that fifty years of effort spent "to get something on" aluminum have failed ingloriously. Aluminum is harmless to the body just as iron is harmless, for both are normal constituents of the body.

Safeguarded Thyroidectomy and Thyroid Surgery. By Charles Conrad Miller, M.D. Philadelphia. F. A. Davis Co. 1928. Price $3.75.

According to the subtitle this work of 257 pages is designed as a practical guide for the general surgeon. According to the author's preface its justification is largely found in the omissions of more pretentious works. It is much more than a surgical monograph for of 27 chapters fewer than half are devoted to purely surgical subjects, the majority dealing with pathology, diagnosis and medical treatment. The surgery in the book is very largely that of others, the author keeping himself in the background, save as a critic and guide. His self-effacement is in fact so great that we are told nothing of his habitat, his sources of material, the amount of the latter and other strictly personal matters. The 52 illustrations, while original, are anonymous. We can only gather from a study of the book that the author has had at least twenty-five years experience as a goiter student and that he is a general surgeon who does canthotomies for exophthalmus, apicectomies for infected teeth and all forms of thyroidectomy. He is evidently thoroughly familiar with exotic literature at first hand, judging from the very numerous references to foreign authorities. If we visualize the book as an attempt to make the operation of thyroidectomy safe for the general surgeon it must be regarded as a success.

Jay Gould: The Story of a Fortune. By Robert Irving Warshow. Greenberg, New York, 1928. $3.50.

There are at least four reasons why this biography will interest the physician: first, because Gould's tuberculosis appears to have been one of the means whereby his immense stores of latent energy were released (toxinic drive) and his native intelligence stimulated; second, this book really accounts for a celebrated man's make-up by invoking modern psychoanalytic methods; third, because it gives a rare insight into the world of speculation and into the "pathology" of finance which cannot but enlighten and safeguard the guileless medical investor; and fourth, because it is a rattling good story for the physician's leisure hour.

Such a story, if fictionized in the form of novel or drama, would not be believed. The *London News*, in discussing the man, once remarked that "Napoleon's combinations were never so vast." And Mr. Warshow has taken this already vivid subject and dynamized the incredible tale as a Jed Harris has revivified the stage with his "Broadway." It is the new biography raised to the *n*th power.

Handbook on Diet. By Eugene E. Marcovici, M. D. Philadelphia. F. A. Davis Co. 1928. Price $3.50.

We have no hesitancy in pronouncing this book an imposition on the book buyer, whether perpetrated by the author or the publisher's reader. Imagine a work written in English for American readers which is silent on the Sippy diets for ulcer, the acid-base ash diet of Salmon, the ketone-acidosis diet in the treatment of epilepsy, the new American diets for pernicious anemia, to mention only a part of the omissions! What do we find in exchange? Nothing much save teachings of Van Noorden, Schlesinger, and other Europeans, which while sound enough as they go, should be dated back many years. The book does manage to incorporate the old Allen diet for diabetes, introduced years before the insulin epoch but the author or publisher fails totally to realize that since the war the United States has become the field of medical advance. The book may answer well for a reprint of an old medical classic, but should not be advertised as a modern work.

Disorders of the Nose, Throat and Ear: Problems of Deafness. By Aaron Roth, M.D., F.A.C.S., etc. Original illustrations by the author. Physicians and Surgeons Book Company, Brooklyn, New York 1927. $2.50.

Dr. Roth's book impresses the reviewer as a successful attempt to present the elements of otolaryngology in a manner that can be understood easily by the general reader, the medical student, the social service worker, the nurse, and the teacher. The author's wish that it will intrigue the general practitioner should be realized. It is a non-technical presentation which if read through from the beginning will be easily assimilated by the layman. The problem of deafness is dealt with in an especially lucid manner. The author's *own* illustrations clarify the text admirably.

Diseases of the Intestine Including the Liver, Gall-Bladder, Pancreas and Lower Alimentary Tract. By Anthony Bassler, M.D., F.A.C.P. Third edition, revised and enlarged. Philadelphia, F. A. Davis Company. 1928. Price $9.

The second edition of this work appeared in 1922 as volume II of the author's "Diseases of the Digestive System," and comprised 660 pages in 19 chapters. The new edition, which has 905 pages, owes its increased bulk largely to the addition of three new chapters devoted respectively to the diseases of the liver, gall-bladder and ducts and pancreas, but about the same number of pages has been added by an elaborate revision of the original chapters. One seldom reviews a later edition of a popular work in which he finds so much and such conscientious effort to bring it up to date. The new chapters are quite up to the former mark and contain complete and lucid accounts of the work of Lyon on duodenal tubage and of the Graham-Cole method of cholecystography. The number of illustrations has been proportionately increased and comprises at present 199 text figures and 78 pages of plates (105 figures).

Decline Progressive in Typhoid Fever

Preliminary reports from the health officers of 36 States for 50 weeks of 1927 show that the incidence of typhoid fever during 1927 was less than it was during the preceding two years. For 50 weeks in 1925, these States reported 30,700 cases of typhoid fever; in 1926, 25,600 cases; and in 1927 only 22,400 cases. The aggregate population of the 36 States is about 88,000,000.

The Nation's Health

Unusually good health conditions in the United States during 1928 are foreseen by the Surgeon General of the Public Health Service, Dr. Hugh S. Cumming, who stated recently that the outlook for the new year is "very encouraging" and that health officers throughout the country generally are "optimistic" as to the public health.